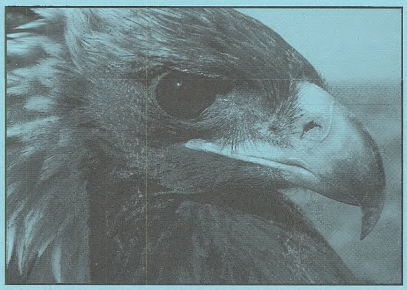
Snake River Birds of Prey National Conservation Area

Management Plan



U.S. Department of the Interior
Bureau of Land Management
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Snake River Birds of Prey National Conservation Area

Management Plan

Prepared By
Bruneau Resource Area
Lower Snake River District Office
Bureau of Land Management, Idaho

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Lower Snake River District
3948 Development Avenue
Boise, Idaho 83705

IN REPLY REFER TO:
1600

Dear Public Land User:

Enclosed for your review is the final Snake River Birds of Prey National Conservation Area (NCA) Management Plan and a proposed (unsigned) Decision Record for the plan. The draft NCA management plan was distributed in March 1995 for an 80-day public comment period that ended on June 30, 1995. Changes based on public comments and new information have been incorporated into the final management plan.

A total of 51 comment letters were received on the draft plan. Comments ranged from discussions of broad aspects of the draft plan to very specific editorial details. Many of the comments and editorial text changes have been incorporated directly in the final plan. Other comments engendered considerations that are more appropriately addressed outside the framework of the plan. We have enclosed a document entitled "Responses to Comments on the Draft NCA Management Plan," which includes a more in-depth discussion of certain questions and comments. We hope this additional discussion helps to clarify various issues for the reader.

The final NCA Management Plan, like the draft plan, is a composite of old and new decisions, and incorporates requirements of the NCA legislation. Many of the management actions contained in the 1985 Snake River Birds of Prey Area Management Plan have not been implemented because of staffing and funding limitations. Uncompleted management actions from the 1985 plan are carried forward into the final NCA Management Plan. The only portions of the final NCA Management Plan not previously discussed in the 1985 management plan are the shooting and access management proposals. Therefore, an environmental analysis of various alternatives for these two proposals is included in the Recreation Management chapter. The final NCA Management Plan contains additional alternatives for shooting and access management that were developed in response to public comments received on the draft plan. As requested by the public, the decision on these two issues is made available at this time for one additional comment opportunity.

The proposed Decision Record is now available for a public review period that will expire on January 20, 1996. Comments on the proposed Decision Record should be addressed in

writing to the Manager, Snake River Birds of Prey National Conservation Area, Lower Snake River District, Bureau of Land Management, 3948 Development Avenue, Boise, Idaho 83705. Any comments received will be considered in making the final decision. If comments result in substantive changes a new decision will be issued. If no substantiative changes are made, the proposed decision will become final effective at the end of the comment period.

John Sulllivan
NCA Manager

Decision Record and Finding of No Significant Impact

Decision Record

In 1985, BLM published the Snake River Birds of Prey Area Management Plan, consistent with the decisions in the 1979 Snake River Birds of Prey NCA Environmental Impact Statement (EIS), the 1979 Agricultural Development for Southwest Idaho EIS, and the 1983 Bruneau-Kuna Grazing EIS, and in conformance with the existing land use plans. Under the requirements of Section 4(a)(1)(A) of the NCA legislation, the current (1995) NCA management plan was originally initiated as a revision of the 1985 plan, and was to be followed by development of a "new management plan" in 1996. However, because of the comprehensive scope of the plan and the extensive public coordination process involved with its development, this plan fully satisfies the legislative requirement for a new management plan. Thus, this management plan is adopted as the final plan required under Section 4(a)(1)(A) of the NCA legislation.

The final NCA Management Plan includes many management actions being carried forward from the 1985 Snake River Birds of Prey Area Management Plan because they have not as yet been implemented. These management actions are hereby accepted and incorporated in their entirety. The revised preferred alternatives for shooting and access management contained in the final NCA Management Plan are adopted.

Finding of No Significant Impact

Based on the environmental analysis of the shooting and access management alternatives, BLM has concluded that actions associated with the respective preferred alternatives will have no significant adverse impact on the human environment. All other actions in the final NCA management plan have been analyzed in previous EIS's. Therefore, another EIS is not required for this plan.

Rationale for Decision

The NCA was established to conserve, protect, and enhance raptor populations and habitats and the natural and environmental resources and values associated therewith, and the scientific, cultural, and educational resources and values of the public lands in the NCA. The NCA legislation emphasizes the continuation of existing uses to the extent that they are consistent with the purposes for which the NCA was established.

The final NCA Management Plan implements the legislative mandate by describing how the NCA will be managed to conserve and protect existing raptors and their habitat, and other natural and cultural resources. The final plan also provides for the continuation of existing uses, except where those uses adversely impact raptors or conflict unacceptably with other uses.

The management actions being carried forward from the 1985 management plan and the preferred alternatives for shooting and access management are considered as best meeting the management objectives outlined by Congress for the NCA. Implementation of the final NCA Management Plan will not only protect the unique and nationally significant resources of the NCA, but will also lead to improvement in the quality and condition of those resources.

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Introduction

Purpose

The 484,873-acre Snake River Birds of Prey National Conservation Area (NCA) was established by Public Law 103-64 (the Act) on August 4, 1993. According to Section 3 of the Act, the NCA was established "...to provide for the conservation, protection, and enhancement of raptor populations and habitats and the natural and environmental resources and values associated therewith, and of the scientific, cultural, and educational resources and values of the public lands in the conservation area." This document is a comprehensive management plan that describes site specific actions and gives management guidelines for achieving these purposes of the NCA.

Background

The area encompassed by the NCA was originally withdrawn by the Secretary of the Interior under two separate Public Land Orders (PLO). On October 12, 1971, the Secretary signed PLO 5133, designating approximately 26,311 acres of

Nestling ferruginous hawks perched atop a nesting platform installed by BLM.

public land along the Snake River as the Snake River Birds of Prey Natural Area (Natural Area). These lands were withdrawn from all forms of appropriation under the public land laws and general mining laws, but not the mineral leasing laws.

With additional information about nesting and raptor prey habitat requirements, the Secretary signed PLO 5777 on November 21, 1980, withdrawing approximately 482,640 acres of public land for the Snake River Birds of Prey Area (BOPA). Within this area, approximately 64,865 acres of essential nesting habitat were withdrawn from the operation of the general mining laws, but not the mineral leasing laws. Approximately 417,775 acres, consisting of raptor prey habitat on the adjacent Snake River Plain, were withdrawn from operation of the agricultural land laws and state selection statutes. These withdrawals were instituted for a period of 20 years to protect the ecosystems necessary to support the densest concentration of raptors recorded in North America. The withdrawals permitted development and use of other resources in the area under a multiple-use and sustained yield concept. The NCA was established to make permanent the protection originally provided under the above PLOs. The NCA now contains 484,873 acres as a result of land tenure adjustments.

The NCA has historically been used for a variety of public uses, including grazing, camping, hunting, fishing, and other forms of recreation. Since World War II, a portion of the NCA has also been used for military training. The Idaho Army National Guard (IDARNG) currently carries out training activities within the 138,000-acre Orchard Training Area (OTA) (Map A).

Provisions of the New Legislation

Section 3(a)(3) of the Act provides that uses of public lands in the NCA existing on the date of enactment, including livestock grazing and National Guard training activities, shall be allowed to continue as long as they are consistent with the purposes for which the NCA was established.

The Act provides for several other specific actions, including the following:

1. Section 3(c) requires that a map and legal description of the NCA will be filed by the Secretary of the Interior with the Committee on Natural Resources of the House of Representatives and the Committee on Energy and Natural Resources of the Senate.

2. Subject to valid existing rights, Section 3(d) withdrew NCA lands from all forms of entry, appropriation, or disposal under the public land laws in general, and from entry, application, and selection under the following specific laws:

Desert Land Act (43 U.S.C. 321 et seq.) as amended
Carey Act (28 Stat. 422) as amended
State of Idaho Admissions Act (26 Stat. 215)
Section 2275 of the Revised Statutes (43 U.S.C. 851)
Section 2276 of the Revised Statutes (43 U.S.C. 852)

3. Subject to valid existing rights, Section 3(d) also withdrew public lands within the NCA from entry, appropriation, or disposal under the general mining laws, mineral and geothermal leasing laws, and mineral material disposal laws. Disposal of salable mineral commodities, such as cinders, clay, and sand/gravel is allowed to continue from existing sites throughout the NCA, as long as disposal does not conflict with the purposes for which the NCA was established.

4. Section 5 authorizes acquisition of lands within the boundary of the NCA through donation, purchase, exchange, or transfer from another Federal agency, except that lands owned by the State of Idaho may only be acquired through donation or exchange.

5. Section 6(b) directed that public lands that were previously designated in PLO 5133 as Instant Wilderness Study Areas under Section 603(c) of the Federal Land Policy and Management Act of 1976 (FLPMA) were determined to be unsuitable for wilderness designation, and were released from further management under Section 603(c) of FLPMA.

6. Section 6(c) revoked PLO 5133 and PLO 5777.

Management Goals

The following management goals were developed from specific management direction found in Section 4(b) of the Act.

1. Provide for the conservation, protection, and enhancement of raptor populations and habitats, and the scientific, cultural, and educational resources and values of the NCA.

2. Provide for continued and diverse public uses that are consistent with the objectives of protecting raptor populations, conserving and enhancing their habitats, and properly managing other resources and values of the NCA.

3. Coordinate research and studies of raptors, raptor prey, and their habitats to support needs identified by BLM management.

4. Demonstrate vegetation and habitat management and enhancement practices and techniques that may be applied elsewhere.

5. Enhance public understanding of, and appreciation for, natural processes and special resources and values through public education and interpretive programs.

Management Issues

During the development of this plan, the BLM Bruneau Resource Area staff developed a draft list of management issues to be addressed. On December 8, 1993, this list was mailed to more than 160 individuals, organizations, and agencies for a 30-day comment period. The issues were revised in response to comments received, and were again mailed for public information on January 27, 1994. On February 14, 1994, the Bruneau Resource Area held an open house in the Lower Snake River District Office to allow interested persons an opportunity to discuss NCA management and the planning process. In addition, BLM staff attended meetings with the following groups to discuss the management issues: Ada, Elmore, and Owyhee County Commissioners, Owyhee County Land Use Planning Committee, permittees from the Sunnyside Spring/Fall and Winter allotments, Idaho Army National Guard, Idaho Power Company, and Idaho Department of Fish and Game.

The following list of management issues resulted from this public process.

Issue 1: *Native vegetation within the NCA is rapidly being replaced by exotic plant communities.*

Over half of the native shrub habitat in the NCA has been lost since 1980 due to wildfire. Historical grazing practices, National Guard tank maneuvers, and unsuccessful greenstrip projects also have adversely affected native plant communities. Attempts to reestablish native vegetation have been largely unsuccessful. Native vegetation is being replaced by cheatgrass, tumble mustard, Russian thistle, halogeton, bur buttercup, and other exotic annuals. Most of these plants dry out in early summer and provide fine fuels that perpetuate recurring fires and continual replacement of native shrub communities with exotic annual species. As a result, much of the NCA is highly disturbed and in poor ecological condition.

Issue 2: *The loss of native habitat adversely affects the well being of some raptors and prey species.*

Plant communities altered by wildfire, soil erosion, and exotic plant invasion are not able to support the density of certain prey species needed to sustain raptor

populations for which the area has been set aside.

Issue 3: *Human disturbance is detrimental to the well-being of raptors and the prey species upon which they depend.*

Human disturbance at nest sites may cause desertion or detrimental behavioral changes in adult raptors. Disturbances in the hunting territory may reduce the ability of raptors to capture or deliver prey to their mates or young, causing diminished productivity.

Issue 4: *Special status plant and animal species [1]are negatively affected by habitat destruction and human disturbance.*

Habitat degradation destroys food and shelter needed by special status species. Human disturbance (e.g., off-highway vehicle driving, human-caused fires, and shooting or collecting of special status species) can degrade these plants and animals and their habitats.

Issue 5: *Increasing levels of recreation use are threatening some of the significant resources and values of the NCA.*

As recreational use grows, resources are adversely affected, and there is increased contact and conflict between user groups. Without effective management of recreational use, some qualities that make the NCA unique will be compromised.

Issue 6: *Visitor safety is compromised by a variety of natural and human-caused hazards within the NCA.*

Visitors to the NCA face a variety of potential hazards. Some hazards can be minimized with a visitor information program. Other hazards can be effectively managed only through more intensive use supervision or restriction of some activities.

Issue 7: *Cultural and paleontological resources are being damaged or destroyed by increasing visitor use of the NCA.*

The NCA contains one of the largest, most diverse, and scientifically important collections of prehistoric and historic archaeological sites and paleontological resources in Idaho. Many of the sites in the NCA, particularly within the Snake River Canyon, have been vandalized or destroyed by visitors, and this trend is continuing. These sites and resources are finite; once damaged, they cannot be replaced or restored.

[1]Special Status Species: Includes federally listed threatened, endangered, and candidate species; BLM species of concern; and Idaho Department of Fish and Game Species of Special Concern.

Issue 8: *The management plan should provide for mitigation of conflicts to preserve existing uses within the NCA to the extent that those uses are consistent with the purposes for which the NCA was established.*

Pursuant to Section 4(c)(2) of the Act establishing the NCA, where existing uses or levels of use are determined to be inconsistent or incompatible with the purposes for which the NCA was established, and where conflicts cannot be mitigated, some uses may need to be modified, reduced, or eliminated to meet goals established by Public Law 103-64.

Issue 9: *Unauthorized use of public lands compromises proper land management.*

Unauthorized use of public land (such as agricultural and livestock trespass, vandalism, trash dumping, off-highway vehicle use, illegal shooting, etc.) adversely impacts public land resources, values or other users. This may result in the public bearing the cost of restoring sites affected by unauthorized use. In addition, harassment or shooting of livestock and vandalism to livestock management structures cause unnecessary losses to livestock operators.

Issue 10: *Increased public use and interest in natural and cultural values within the NCA has resulted in a need to develop a visitor information and environmental education program.*

With the increased visitor interest in the NCA, demands for educational and interpretive programs on natural and cultural values have also increased. Currently, very few facilities exist to meet the demands and pressures of a growing number of visitors. The legislation establishing the NCA directs that a management plan be developed for the area that emphasizes protection of the natural and cultural environment and addresses the need for public educational and interpretive opportunities. Distribution of information, development of facilities, and public education would meet public demands and help instill principles of ethical, non-destructive behavior.

Issue 11: *Research activities within the NCA may interfere with each other and may adversely affect existing resources.*

The Act establishing the NCA requires BLM to provide for continued scientific investigation and study. Increased interest in ecological and cultural research opportunities within the NCA has increased the potential for study personnel to adversely impact raptors, raptor prey, vegetation, soils, and cultural resources. In addition, studies may interfere with each other or with NCA management.

Issue 12: *A lack of staffing and funding limits BLM's ability to adequately monitor and manage public use of the NCA.*

Use of the NCA has increased significantly in the recent past. However, BLM's staffing and funding limitations make it impossible to adequately monitor this use, and establish an effective strategy for proper management of the affected resources.

Relation of this Plan to Other Planning and Environmental Documents

On September 29, 1977, the Secretary of the Interior issued a directive requiring BLM to suspend all actions that might in any way jeopardize raptor prey habitat in the Snake River Birds of Prey Area. The directive further required BLM to develop, by June 1979, proposed legislation that would permanently protect the Snake River Birds of Prey Area. In October 1978, BLM's first Management Plan for the Proposed Birds of Prey National Conservation Area was approved. In June 1979, BLM published the Final Environmental Impact Statement (EIS) for the Snake River Birds of Prey National Conservation Area. This document recommended that the Snake River Birds of Prey Area be designated by Congress as a National Conservation Area (NCA). This was accomplished in August 1993.

Subsequent to the 1979 publication of the above-mentioned EIS, BLM completed five land use plans that each address a different portion of the NCA. These land use plans and their dates of approval are: Owyhee Management Framework Plan (MFP), May 29, 1981; Bruneau MFP, March 30, 1983; Kuna MFP, March 30, 1983; Jarbidge Resource Management Plan (RMP), March 23, 1987; and Cascade RMP, July 1, 1988. An RMP is currently being prepared to replace the Owyhee MFP. The portions of each of the above land use plans that address portions of the Snake River Birds of Prey Area were prepared to be consistent with designation of the area as an NCA, and to comply with the Secretary's directive to protect raptor prey habitat.

Environmental impact statements were incorporated into the RMPs identified above. Separate livestock grazing EISs were prepared for the Bruneau, Kuna, and Owyhee MFPs. The decisions resulting from these EISs were reflected in the land use plans, and therefore are also consistent with the proposal to designate the NCA.

On August 30, 1985, BLM published the Snake River Birds of Prey Management Plan, consistent with the decisions in the 1979 Snake River Birds of Prey NCA EIS, and in conformance with the applicable land use plans. This 1995 management plan was initiated to be merely a revision of the 1985 plan, to be followed by a "new management plan" in 1996, as required by Section 4(a)(1)(A) of the NCA legislation. However, after discussing the matter with Congressional leaders and known interested parties, we have determined that, for the following

reasons, this plan fulfills the legislative requirement for a "new management plan" for the foreseeable future.

1. This plan is a comprehensive document, developed and revised with substantial public participation.

2. The plan is consistent with the EIS that analyzed establishment of the NCA, and is in conformance with the applicable land use plans, which were prepared after NCA designation was originally proposed.

3. The plan takes into consideration all currently available information. When new findings from ongoing research and grazing AIEs are available, the plan will be supplemented, revised, or amended as appropriate to incorporate the new information.

4. Very limited funding and staffing are available for management of the NCA. Substantial efforts required to prepare another management plan would decrease other management capabilities, while not providing substantial benefits.

The only significant changes in this management plan compared to the 1985 plan are the shooting and access management proposals. Because these are new proposals, the environmental impacts of the proposals and various alternatives were analyzed in the draft plan and are included in this final plan. Adjustments have been made in the proposals to accommodate comments and suggestions offered by the public and interested agencies.

All other anticipated impacts of this management plan were analyzed in the 1979 Snake River Birds of Prey NCA EIS. However, the plan allows for considerable management flexibility for some uses (e.g., military training maneuvers, livestock grazing, and some forms of recreation), so it may not specifically address some actions. Therefore, prior to implementing each management action within the NCA, BLM will screen the action to determine if it might cause an environmental impact that has not been analyzed. If so, an environmental analysis will be prepared, considering all current information, before the action is implemented.

In the spring of 1996 a research report will be completed on an ongoing study of National Guard use of public lands in the Orchard Training Area (OTA). Information in the research report will be used to analyze the effects of military training activities on raptors and their habitat. The information will also be used to develop a National Guard "natural resource management plan," which will direct future military use of the OTA and will become an integral part of the overall NCA management plan. The environmental analysis and "natural resource management plan" will then be used to renew or modify the existing

Memorandum of Understanding between BLM and the National Guard, ensuring that future military training activities in the NCA meet the requirements of the NCA legislation.

Management Actions

This management plan presents management actions at the end of each chapter to address specific resource problems discussed in that chapter. Most of the management actions were included in the 1985 BOPA management plan and are carried forward into this plan because they were never implemented. Management actions affect only public lands within the NCA.

Plant Communities and Ecology

Background

This chapter provides a brief overview of important environmental concerns and ecological processes that either require management or that may limit management options within the NCA.

Before the settlement period, vegetation of the lower Snake River Plain was dominated by extensive stands of either big sagebrush or salt desert shrubs (Yensen 1982). Beginning in the 1800's, heavy livestock grazing changed the composition of rangeland communities. High stocking levels, combined with 14 years of below normal precipitation, culminating in the severe drought of 1934, resulted in drastic reductions of native understory grasses and the creation of dense monotypic stands of big sagebrush (Pechanec et al. 1937). The reduction in native understory vegetation provided the opportunity for exotic annuals, such as Russian thistle (Salsola iberica), tumble mustard (Sisymbrium altissimum), cheatgrass (Bromus tectorum), halogeton (Halogeton glomeratus),

Communities of winterfat, sagebrush, shadscale, and other shrubs flourish in the silty soils found north of the Snake River. These shrub communities are favored by the Townsend's ground squirrel and black-.-tailed jackrabbit, important prey animals for prairie falcons, golden eagles, and other raptors.

bur buttercup (Ranunculus testiculatus), and medusahead wildrye (Taeniatherum caput-medusae) to invade southern Idaho (Yensen 1982). These and other exotic species now represent a major vegetative component of the NCA.

Existing Plant Communities

The vegetation of the NCA provides habitat and food for a number of wildlife species, especially raptor prey species. The habitat consists of two broad vegetation community types: Wyoming big sagebrush/grass and salt desert shrub.

In Wyoming big sagebrush (Artemisia tridentata wyomingensis) vegetation types, big sagebrush is the dominant shrub. However, dominant grasses associated with these vegetation types differ with soil texture and elevation. Grass species found in the NCA associated with big sagebrush include:

Thurber needlegrass (Stipa thurberiana)
Bluebunch wheatgrass (Agropyron spicatum)
Bottlebrush squirreltail (Sitanion hystrix)
Basin wildrye (Elymus cinereus)
Indian ricegrass (Oryzopsis hymenoides)
Sandberg bluegrass (Poa secunda)
Needleandthread (Stipa comata)

Major shrub species associated with salt desert shrub communities include:

Winterfat (Ceratoides lanata)
Shadscale (Atriplex confertifolia)
Fourwing saltbush (Atriplex canescens)
Nuttall saltbush (Atriplex nuttallii)
Budsage (Artemisia spinescens)
Spiny hopsage (Grayia spinosa)
Black greasewood (Sarcobatus vermiculatus)

The major grass species associated with salt desert shrub communities include Indian ricegrass, bottlebrush squirreltail, and Sandberg bluegrass.

Exotic plants can be very competitive and can greatly retard or eliminate recovery of native species. Exotic weeds, such as Russian thistle, halogeton, bur buttercup, tumble mustard, and cheatgrass have become established and are common throughout the NCA. Medusahead wildrye, another weedy annual grass, is not common but is locally abundant in a few places within the NCA.

These and other exotic plants are a special management concern in the NCA because they do not provide a preferred diet for Townsend's ground squirrel

(Spermophilus townsendii) (Van Horne et al. 1992), nor do they provide cover for black-tailed jackrabbits (Lepus californicus). These two foraging mammals provide the bulk of available and preferred prey for diurnal raptors in the area. Anything that compromises the population dynamics of raptors is of special concern. Therefore, a prime consideration for raptor prey management in the NCA is to improve habitat conditions, which includes rehabilitating areas currently dominated by undesirable exotic species. Rehabilitation involves reestablishing native vegetation and/or seeding with selected desirable nonnative species. Removing exotic species without reestablishing suitable ground cover simply leaves treated areas open for soil erosion, reducing the productive capacity of the soil and allowing further invasion by exotic plants.

A Shrub Restoration Plan was completed for the BOPA in 1990. The plan provided for:

1. Small scale trials of:
   a. Restoration methods in annual grass communities.
   b. Interseeding native perennial grasses into shrub communities with annual grass understory.

2. Larger scale projects to interseed shrubs in perennial grass communities lacking shrubs.

3. Cindering of roads and trails in the OTA and restriction of vehicle use to cindered routes.

To-date, only two restoration projects have been implemented under the Shrub Restoration Plan. IDARNG planted 6,000 winterfat and 4,000 big sagebrush seedlings in 1990 within the OTA. In 1991, BLM drill-seeded 1,700 previously-burned acres to a mixture of native and exotic species, where competition had been suppressed by drought.

Riparian Habitat

Riparian habitat in the NCA is generally limited to narrow bands along the Snake and Bruneau Rivers and several small perennial streams, including Sinker, Castle, Canyon, and Bennett Creeks. Only the lower portions of these creeks are within the NCA, and much of their flow is diverted for irrigation before they enter the NCA. The diversion of flow has reduced the amount and diversity of riparian vegetation along these streams. Small areas of riparian or emergent wetland vegetation also are found at small seeps and springs and along intermittent streams.

Riparian vegetation along the Snake River is dominated by coyote willow (Salix exigua), a multiple stemmed shrub growing up to 12 feet tall. Along most of the

river, coyote willow grows in a very narrow band just above the mean water surface elevation of the river. Russian olive (Elaeagnus angustifolia), an introduced exotic species, often grows along with the willow.

Soils in the Snake River Canyon are generally very rocky and well-drained and streambanks slope steeply towards the river. Alluvial areas where intermittent and perennial streams flow into the Snake River have shallower slopes and more extensively developed soils that support more diverse riparian plant communities. In these areas, stands of coyote willow are more extensive and are often intermixed with peachleaf willow (Salix amygdaloides), a native species that grows up to 35 feet in height. Black cottonwood (Populus trichocarpa) is also sometimes found in these areas, such as at the mouth of Sinker Creek.

Riparian areas along the Snake River often have a well-developed understory of shrubs, comprised of golden currant (Ribes aureum), Wood's rose (Rosa woodsii), and skunkbush (Rhus trilobata). Several exotic species, including green ash (Fraxinus sp.) and tamarisk (Tamarix chinensis) also grow in these sites. In some riparian areas, Russian olive trees have formed monotypic stands, completely replacing native shrubs and trees.

Several islands in the Snake River are almost entirely covered with a dense riparian shrub community dominated by coyote willow, along with Wood's rose and golden currant.

In the area of Halverson and Wees Bars, there is an extensive stand of hackberry (Celtis reticulata) trees. This slow-growing, long-lived species is native to the NCA, and grows primarily on the north bank of the Snake River in a band approximately 60 feet wide and 3-5 feet above the mean water surface elevation of the river.

Riparian areas along intermittent streams typically support peachleaf and coyote willow, along with Russian olive and Wood's rose.

Seep and spring areas within the NCA are typically dominated by herbaceous species, including reed canary grass (Phalaris arundinacea), bulrush (Scirpus sp.), cattails (Typha latifolia), purple nightshade (Solanum dulcamara), and several species of rushes (Juncus sp.) or sedges (Carex sp.). Many of the seeps in the NCA are watered at least in part by irrigation seepage and return flows. Examples are the Halverson Lakes and several associated seeps located just north of the Snake River. These lakes were originally only seasonally filled with water. However, except in extreme drought years they now hold water year-round because of irrigation seepage from cultivated fields north of the canyon.

Ecological Effects of Fire

Changes in vegetative composition have reduced the ability of vegetative communities in the NCA to withstand periodic fires. Historical heavy grazing reduced fine fuels, such as native grasses, and created a niche that was subsequently filled by cheatgrass. Cheatgrass is an annual grass that can produce heavy fine fuel loads during higher moisture years. It dries early in the growing season, produces continuous fine fuels, and therefore, burns faster and more uniformly than native bunchgrasses. Cheatgrass produces heavy seed crops and readily reseeds itself after fires, setting the stage for repeated burns within the same area, and eventually eliminating existing shrubs.

Salt desert shrub and big sagebrush communities are vulnerable to fire because: 1) recurrent burns reduce the seed source, and 2) the dominant shrubs do not resprout after burning. Post-fire shrub regeneration on these sites is typically very low and burned sites that are not subsequently rested from livestock grazing show a marked reduction in natural stand regeneration. In addition, unburned sites are particularly vulnerable to overgrazing if adjacent burned sites are not rehabilitated.

From 1981 through 1986, wildfire resulted in extensive loss of shrub communities within the NCA. During this period, over half of the shrub cover in the NCA burned, causing a large-scale conversion from shrub communities to annual vegetation community types. Both Wyoming big sagebrush and salt desert shrub communities have been severely impacted. Maps I and J show major vegetation types in 1979 and 1990, respectively, and reveal the dramatic change in vegetative cover throughout the NCA.

Rehabilitation of burned shrub stands through reseeding or natural replacement has generally been unsuccessful due to the effects of 7 years of drought from 1987 through 1993. Because major raptor prey species, such as black-tailed jackrabbits, are closely tied to shrub-dominant vegetation, wildfire and subsequent invasion by exotic plant species has the potential to erode vegetative productivity, adversely impact existing prey populations, and undermine the purposes for which the NCA was established.

BLM is currently experimenting with prescribed fire and herbicides to reduce weed competition in NCA rehabilitation and restoration projects. In spring 1994, prescribed burning was used to control cheatgrass competition prior to reseeding greenstrips along Swan Falls Road. Results suggest that prescribed fire reduces cheatgrass litter, but has little success in reducing cheatgrass competition. Although fire kills substantial seed still on the plant, cheatgrass seed in the soil can remain viable for many years. Because cheatgrass fires generally burn rapidly, heat output is not great enough to kill all cheatgrass seeds lying on the soil surface. These remaining seeds are numerous enough to fully occupy the site following burning.

Ecological Effects of Grazing

The entire NCA has been grazed by livestock since the mid-1800's. Although wildfire has significantly reduced the amount of shrub cover in the NCA since 1980, historic overgrazing by livestock has depleted the dominant native perennial grasses. The understory of most of the remaining shrub communities now consists predominantly of Sandberg bluegrass, bottlebrush squirreltail, and cheatgrass.

In many portions of the NCA, the native perennial forage grass base has declined to the point that livestock operators now depend on cheatgrass as the main forage species. The amount of cheatgrass in the understory of unburned shrub communities generally reflects the degree of disturbance from grazing, military and off-road vehicle traffic, rodent and badger diggings, plowing etc. Cheatgrass also dominates in burned areas that have not been successfully rehabilitated. Although cheatgrass provides high quality forage for a short period during spring, it dries quickly, and provides a highly flammable flash fuel for wildfire. Because of its small root mass, cheatgrass is highly susceptible to fluctuating soil moisture conditions, and annual forage production varies tremendously.

Although historic grazing practices have altered the vegetative composition of the NCA, properly managed livestock grazing has been shown to be compatible with low elevation sagebrush grasslands and saltdesert shrubs communities. Extensive research has been conducted on grazing effects on forage species found in the NCA. Although individual studies differ, long-term studies are fairly consistent in their recommendations for use levels on major forage species. Moderate use levels (40-60%) for winterfat are generally recommended when winterfat is grazed during the fall or winter each year. The literature also recommends moderate use levels for most native perennial bunchgrasses when grazed in a rest rotation system, or under fall or winter use each year. Twenty-five percent utilization is recommended for yearly late spring or early summer use of native bunchgrasses.

Soil moisture plays a major role in how a bunchgrass responds to grazing. During years of adequate soil moisture, bunchgrasses can regrow and set seed following spring grazing prior to elevation of the growing point. If moisture is limiting, as is often the case in the NCA, late spring grazing can prevent these grasses from completing their growing cycle after being grazed. Lack of available soil moisture following grazing late in the growing season can also prevent perennial grasses from replenishing their carbohydrate reserves causing root system atrophy, resulting in decreased water uptake, less production, loss of vigor, and impaired ability to survive drought and other stresses. Lack of seed production and no establishment of new individuals eventually results in attrition of the stand, as old plants die and are not replaced. These openings allow cheatgrass and other undesirable exotic species to invade the site, further decreasing the ability of the stand to regenerate and improve itself.

Ecological Effects of Mechanical Disturbance

In addition to fire, soil disturbance by recreational and utility vehicles, research activities, and failed greenstripping projects has contributed to replacement of native perennial vegetation by cheatgrass and other weeds in localized areas of the NCA. Recreational activities have had the heaviest impact in the canyon area itself. The potential impacts of recreational vehicle use will likely increase as human uses of the area increase.

Shrub habitats in the OTA have been disturbed by IDARNG training activities. Cross-country tank traffic and maneuvers such as neutral steers, or "sitting turns," have disturbed the soil and reduced shrub and grass cover, particularly in maneuver areas. Certain areas are crisscrossed with vehicle tracks, and cheatgrass and other weedy species have increased. Rehabilitation efforts will not succeed unless existing annual weeds are controlled and disturbed areas are protected from further disturbance until seedling establishment occurs.

Roads throughout the OTA have been rutted and/or excessively "powdered" by tanks and other heavy military vehicles, thus preventing use by smaller utility vehicles. To avoid these areas, vehicle operators have created successively wider trails adjacent to the impassable roads, disturbing additional areas. These activities have disturbed soils, reduced native shrubs and grasses, and increased Russian thistle, cheatgrass, halogeton, bur buttercup, and other weeds.

Special Status Plant Species

Under the Endangered Species Act (ESA), BLM is responsible for 1) conserving ecosystems upon which threatened and endangered (T/E) species depend, 2) providing a program to conserve T/E species, and 3) taking steps to achieve the purposes of the various treaties and conventions having to do with conserving plants, wildlife, and ecosystems. In addition, pursuant to Public Law 103-64 and the Sensitive Species Supplement to the Memorandum of Understanding between BLM and IDFG, BLM is required to enhance habitat for species of special concern whose habitat is being limited by human activity, fire, or other causes. BLM has a policy of managing these species much the same as T/E species. That is, BLM tries to manage critical habitats and populations of sensitive species to minimize the need for their future listing as threatened or endangered by either federal or state governments. However, before habitat maintenance or enhancement is possible, we need to better understand what habitats are important to these special status species.

Fourteen special status plant species are known to occur in the NCA (DeBolt and Rosentreter 1988; Idaho Native Plant Society 1991; Moseley and Groves 1992). These species, their status, and habitat characteristics are listed in Appendix A. Several species (i.e. Mulford's milk-vetch, Esteve false yarrow, turtle-back, American wood sage) are known from only one to several sites within the NCA,

while others (i.e. Davis peppergrass, slick-spot peppergrass, desert dandelion) are more widespread within this portion of the state. As more inventory information becomes available, the list of species will likely change.

A Conservation Agreement (CA) between BLM and USFWS was signed in 1989 to aid the conservation of Davis peppergrass, a federal Category 2 (C2) species. This agreement calls for alternate year population trend monitoring of 21 playas, most occurring within the NCA, which are occupied by the species. The CA also calls for the protection of all Lepidium-occupied playas from water development projects. The CA is currently under revision to update the proposed management action section and to incorporate IDARNG as a signatory. IDARNG has designated all playas within the OTA as "off limits" to military training, and is currently funding research to determine demography, disturbance, production, and requirements for germination and pollination. Davis peppergrass is known from southwest Idaho and from 13 sites in eastern Oregon.

A CA for slick-spot peppergrass, also a C2 species, is in preliminary draft form and has not yet been jointly reviewed by the three signatories (BLM, USFWS, IDARNG). Population centers for the species in the OTA are off-limits to military activity except for travel on improved and maintained roads. Life history studies have been initiated by IDARNG to aid in formulating appropriate management practices. The studies, begun in 1991, include investigations into demography, disturbance, productivity, and requirements for soils, habitat, germination, and pollination. Soldiers training in the OTA are briefed on the importance of preserving both peppergrass species and their habitat. Slick-spot peppergrass is known only from southwest Idaho.

Because woven-spore lichen (C2) sometimes occurs on the same sites as slick-spot peppergrass, the two species will likely be included within the same CA. One of three permanent monitoring stations for slick-spot peppergrass lies within the NCA, but monitoring efforts for woven-spore lichen have not as yet been initiated. New locations for these species, especially peppergrass, are continually being found; however, the habitat is highly vulnerable to destruction from wildfire. Controlling wildfire in the vicinity of these species is the primary management action needed to ensure their continued survival within the NCA. Woven-spore lichen is known only from several sites near Boise and in the NCA, two sites in Oregon, and several sites near San Bernadino, California.

Mulford's milk-vetch is known from just one site within the NCA. A district-wide CA is currently being developed for this species. Because of the extreme rarity of this species, the known site within the NCA should be protected from all possible disturbance, namely off-highway motor vehicles (OHMVs) and livestock grazing. The global distribution of Mulford's milk-vetch is southwest Idaho and eastern Oregon.

Much less information is available for the remaining ten special status plant species. However, inventory elsewhere in the Lower Snake River District suggests that both Murphy milk-vetch and desert dandelion are more common than previously thought, and it is likely they will be dropped from the district's special status plant list in the future. Several of the other species (Esteve false yarrow, matted cowpie buckwheat, white-margined wax plant, and turtle back) reach the northern limit of their distribution in the NCA. They also occur in Utah and Nevada. New observations for all special status plants should continue to be recorded and reported to the Conservation Data Center and the district botanist, to continue to assess the overall status of these species.

Noxious Weeds

Noxious weeds are plants designated by states and/or counties for special control priority. They are highly competitive and will permanently dominate invaded areas if not controlled, resulting in the destruction of native vegetation, wildlife habitat, and other resource values.

Common noxious weeds in the NCA include: yellow starthistle, spotted, diffuse, and Russian knapweed, white top, scotch thistle, leafy spurge, and rush skeletonweed (Appendix B). These species are increasing at a rate of 14 percent per year on BLM lands throughout the west, amounting to an additional 2300 acres per day nationwide (Jerry Asher, Oregon BLM, pers. comm.).

Widespread annual weeds, such as cheatgrass, Russian thistle, bur buttercup, tumble mustard, and even halogeton are not classified as noxious. These species occur on rangelands in poor condition as a result of recurring fire and soil disturbances, but they are not as competitive in healthy communities as are noxious weeds.

A potential for serious infestations of yellow starthistle, purple loosestrife, and knapweed exists within the NCA. Monocultures of these species, especially thistle and knapweed, now infest millions of acres in northern Idaho, western Montana, eastern Oregon, and Washington. Because one yellow starthistle plant can produce up to 10,000 seeds, small infestations can rapidly increase.

Yellow starthistle and diffuse knapweed are well adapted to low precipitation sites of the Snake River Plain. Cheatgrass is an indicator of site potential for these species. These species can become established and eventually out-compete cheatgrass on all cheatgrass sites. Cheatgrass-dominated rangelands are also much more vulnerable to invasion than sites occupied by perennial grasses (Dr. Robert Callihan, University of Idaho, pers. comm.).

Fortunately, noxious weeds are not yet widespread on the NCA. All but leafy spurge presently occur in small quantities on the NCA and are being controlled

when found. Keys to preventing noxious weed invasion are: 1) to eliminate small populations as they are discovered before they have the opportunity to increase, and 2) to improve the ecological condition of the NCA to reduce the availability of suitable invasion sites.

Management Actions

Activity Plans

1) Develop an overall monitoring plan for the NCA that addresses the specific needs described in this plan and integrates monitoring requirements for all resources.

Special Status Plant Species

2) Develop and implement conservation agreements for Davis peppergrass, slick-spot peppergrass, and woven-spore lichen.

3) Protect the Mulford's milk-vetch site in the NCA from livestock and OHMV damage and address management of this site in the planned conservation agreement.

4) Help fund a study on the habitat requirements of Mulford's milk-vetch.

5) Help fund a study of the genetic variation within populations of Davis peppergrass.

6) Help fund a study that will determine the distribution and taxonomic status of matted cowpie buckwheat and Packard's cowpie buckwheat.

7) Designate known slick-spot peppergrass and woven-spore lichen sites as high priority for fire suppression.

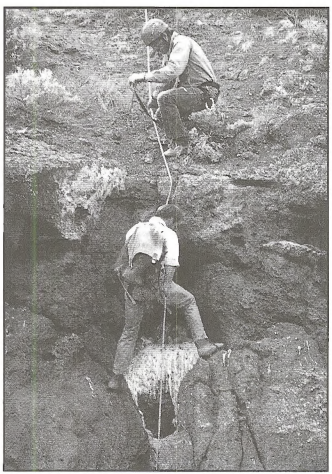
8) Continue recording all new special status plant observations in the NCA and provide this data to appropriate federal and state entities.

Research, Inventories, Studies, and Monitoring

History of Research

The NCA is a unique outdoor laboratory and is well-known for the research that has been done in the area. Research, studies, inventories, and monitoring have been conducted in the NCA since 1966. Since 1973 BLM has conducted, coordinated, and authorized scientific investigations of raptors, their prey, and the vegetative habitats that support prey.

From 1975 through 1979 BLM sponsored an integrated research program to identify the spatial needs of raptors and to assess the effects of agricultural development on raptors and their prey. The project culminated in the publication of the 1979 Snake River Birds of Prey EIS, which recommended the protection of raptors and their prey through the establishment of the National Conservation Area. During the mid-1980s, BLM sponsored research on raptors in cooperation with electric utility companies. Idaho Power Company and BLM studied the effects of construction activities on nesting prairie falcons, and Pacific Power and Light Company and BLM conducted studies of raptor and raven use of a 500-kV transmission line that traverses the northern portion of the NCA.



BLM biologists visit a prairie falcon nest as part of a long term effort to monitor nesting success and productivity.

Since 1990, BLM and IDARNG have cooperated in a major research program to assess the effects of military training and habitat alteration on raptors and their prey. The final report from this research project will be completed in spring 1996. IDARNG will then incorporate the research findings in an EIS that evaluates various management alternatives for continued military training within the NCA. The EIS, to be initiated in

fall of 1996, will be prepared with full public involvement. Decisions resulting from the EIS will be incorporated into the NCA management plan.

Throughout the years smaller-scale studies of plants and animals within the NCA have been carried out. Some of these have been supported by BLM and others have been independently funded. In addition to research and studies, numerous rangeland monitoring efforts, including vegetation condition and trend and forage utilization studies, have taken place in the NCA. IDARNG personnel have also initiated programs, such as the Land Condition and Trend Analysis, to monitor vegetation and prey populations.

Results of investigations within the NCA have been presented in nearly 100 scientific publications. BLM has organized and stored data collected by research, inventory, study, and monitoring efforts, and has also assembled a large library of ecological publications. The BLM's Snake River Birds of Prey Research Project, which is responsible for this task, became the Raptor Research and Technical Assistance Center in 1990 and was subsequently transferred to the National Biological Service (NBS) in 1993.

Scientific investigations within the NCA have increased our understanding of the ecology of raptors and their principal prey species. However many habitat questions remain unanswered. To effectively manage the NCA, additional information must be collected. For example, managers require data on techniques to restore native vegetation. Managers also require more information on the effects of grazing and other vegetation and soil disturbances on raptor prey populations and habitat.

Managing Research

The legislation establishing the NCA requires BLM to provide for continued scientific investigation and study to the extent that these activities do not interfere with the purposes for which the NCA was established. This responsibility includes two distinct roles. The first is to sponsor and oversee research that addresses resource management needs in the NCA and also in other areas administered by BLM. The second role is to coordinate research activities in the NCA to ensure the well-being of the area's resources and to prevent investigations from interfering with each other.

As more data have accumulated and as more results have been published in scientific journals, researchers from around the world have become aware of the NCA and its potential for research. The large amount of background information already collected has attracted researchers who want to build on the baseline data. Interest in research has also increased because Boise State University's Raptor Research Center and the Peregrine Fund's World Center for Birds of Prey have brought more raptor biologists to the Boise area. Outside

interest in conducting research and studies in the NCA is expected to increase in the future.

The cumulative effects of ecological disturbance by investigators is a concern. In 1993 more than 75 people collected various kinds of scientific data in the NCA. Scientific investigators, like other users, have the potential to adversely affect raptors, prey, and habitat. For example, researchers can cause nest abandonment if they disturb raptor nests at an inappropriate time, and monitoring crews can disturb vegetation and cause soil erosion when they drive off roads to reach sampling sites. The potential for investigations to interfere with each other will increase as the number of research, study, inventory, and monitoring investigations increase.

Protocol and guidelines for accomplishing research and study within the NCA will be described in a "Procedures for Managing Research, Inventory, Studies, and Monitoring" (PRISM) document. This document will establish guidelines for evaluating proposed and ongoing investigations in the NCA, provide a mechanism for setting priorities for investigations within the NCA, and provide guidelines for managing investigations to ensure the well-being of the NCA's resources. The document will also stipulate a protocol to ensure that studies do not interfere with each other, and it will establish procedures for data management that will promote integration of new and existing data. BLM personnel will work cooperatively with NBS personnel to finalize this document and to carry out these functions.

Management Actions

Monitoring

1) Develop an overall monitoring plan for the NCA that addresses the specific needs described in this plan and integrates monitoring requirements for all resources.

2) Monitor cumulative effects of investigations on soils, vegetation, and animal populations in the NCA to determine if research activities need to be modified or curtailed.

Research

3) Continue to encourage cooperative investigations and involvement of outside entities in research, monitoring, inventory, and studies in the NCA.

4) Draft the "Procedures for Managing Research, Inventory, Studies, and Monitoring" (PRISM) document.

5) Review all proposals for research, studies, monitoring, and inventory in the NCA for compatibility with resource values and with ongoing research under protocols to be established in the PRISM document.

   a. Investigations that may have significant effects on environmental resource values will not be authorized until an analysis is completed to evaluate the potential impacts of the proposal, under the requirements of NEPA.

   b. Require all investigators to submit annual study plans and precise locations of their sampling sites to BLM before any field work begins.

   c. Require all authorized investigators to submit to BLM an annual report summarizing the progress of their investigation.

   d. If a proposed investigation has the potential to interfere with, or otherwise affect management programs or other investigations, the BLM authorized officer will determine if conflicts can be resolved and the proposed investigation can be authorized, or whether one or more studies need to be modified or discontinued, based on criteria outlined in the PRISM policy document.

6) Coordinate proposals for consumptive cultural research with the Idaho SHPO and affected Indian tribes. Approval for consumptive research will only be given in the following circumstances:

   a. The affected site requires emergency salvage because ongoing or potential damage to the site cannot be avoided.

   b. The information to be acquired from excavation of the site outweighs the loss of the site itself.

7) The Raptor Research and Technical Assistance Center will assist BLM in administering a central data system containing results of all research, studies, and monitoring conducted in the NCA. Individuals and agencies conducting studies and/or research in the NCA will be required to provide copies of data and data descriptions to the BLM on computer disk in the appropriate format. Researchers will also be required to provide copies of reports and publications produced from work done in the NCA.

Wildlife and Threatened and Endangered Species

Background

During the 1940s falconers and other admirers of raptors recognized the unique characteristics of the Snake River Canyon and the adjoining upland desert located between Hammett and Marsing, Idaho. In this area they found a remarkable assemblage of nesting raptors in densities unparalleled in North America and perhaps the world (Morlan Nelson, pers. comm.). Accessibility to so many raptors excited the scientific community, which began using the area for raptor research. In the mid-1960s, Hickman (1968) surveyed southeastern Oregon and southwestern Idaho, including the NCA, for nesting golden eagles (Aquila chrysaetos). In the late 1960s and early 1970s, University of Idaho students studied golden eagles and prairie falcons (Falco mexicanus) in the present NCA (Beecham 1970, Kochert 1972, Ogden 1973). In 1972, BLM initiated a raptor research project that, in 1975, became an integrated team project to investigate the ecology of raptors and their prey. Interest in raptor ecology, research, and monitoring within the NCA has continued to increase since that time.

Appendices C, D, E, F, and G list the more than 330 wildlife species that occur in the NCA.

Nestling prairie falcons on the wall of the Snake River Canyon.

Past and Ongoing Management Actions

Since the 1970s, ferruginous hawk (Buteo regalis) and goose nesting platforms have been placed in and around the NCA. These platforms were placed in the area to increase ferruginous hawk productivity by luring hawks from their ground nests to predatory mammal-resistant nest platforms. Likewise, goose nesting platforms have been placed on islands in the Snake River and have successfully reduced mortality of eggs and young from mammalian predators.

There are currently 19 ferruginous hawk platforms near the NCA and 5 within the NCA. Though the success of the platforms is appreciated, some people find them unsightly. Concern has also been expressed about inducing raptors to nest in areas where they have not nested in the past. This can increase local pressure on prey species hunted by raptors like prairie falcons that fly many miles from the canyon to hunt.

In 1980-81, Pacific Power & Light Company constructed a 500-kV electric transmission line across the northern portion of the NCA. During construction, several nest platforms were added to the towers for raptors in or near the NCA. Additionally, the towers themselves provided nest sites used by raptors and ravens.

Nest boxes have been placed in and near the NCA to induce breeding by cavity nesting raptors. Since 1980, 95 nest boxes have been placed in the area for western screech-owls (Otus kennicottii), 28 of which are in the NCA. Boxes have also been placed in the NCA for American kestrels (Falco sparverius) and wood ducks (Aix sponsa). Nest boxes have been placed in and around the NCA by civic-minded citizens and groups for other cavity nesters, as well. The total number of nest boxes within the NCA is unknown because of the many boxes that have been erected without notification to BLM.

In 1973, BLM and the Idaho Department of Fish and Game (IDFG) closed the 26,000-acre Natural Area to shooting from March 1 to August 31 each year. This closure was put into effect to protect nesting and dispersing raptors from disturbance.

IDFG currently prohibits the taking of raptors for falconry purposes within the boundaries of the Natural Area.

In 1978, BLM recommended closing the airspace within the Natural Area below 1500 feet above the canyon rim. However, this airspace closure was never implemented by the Federal Aviation Administration (FAA).

Raptor Ecology

Raptors are found on every continent except Antarctica. Some raptors are year-round residents while others migrate across continents from breeding to wintering areas. Raptors nest on the ground, in marshes, shrubs, trees, and on cliffs, outcroppings, buildings, utility poles, and other artificial structures. Many raptors build nests, but others simply lay eggs on ledges, in cavities, or on the ground. Some raptors use nests built by other birds.

Many raptor species have come close to extinction, and many are still in danger due to a variety of human-caused factors. Because predators feed on animals that may ingest herbicides or pesticides, these birds often accumulate herbicide/pesticide loads that exceed by many hundreds of times those levels found in the environment. Federal listing of the bald eagle (Haliaeetus leucocephalus) and peregrine falcon (Falco peregrinus) as endangered species was the direct result of pesticide poisoning. In August 1995, in response to population rebounds, the USFWS issued a final ruling in the Federal Register, reclassifying the bald eagle from endangered to threatened status.

Habitat loss and modification have put some raptor species at risk of extinction. In the NCA the greatest threat to raptor prey, and thus raptor populations, appears to be the loss of native shrubs from burning and the subsequent invasion and spread of exotic plants. Van Horne et al. (1993) and Yensen and Quinney (1992) found the remains of exotic plants in stomach samples of Townsend's ground squirrels collected in the NCA. However, Sandberg's bluegrass, winterfat, and sagebrush were, by far, the preferred species and made up the bulk of the squirrels' diet (Van Horne et al. 1993). It is not yet known if exotic plants can support the density of ground squirrels found in native habitat. Squirrel population numbers naturally fluctuate from year to year. However, it has been observed that ground squirrel population dynamics appear to be much less stable in annual vegetation community types (Yensen et al. 1992).

Records of raptor mortalities have been gathered by biologists for many years. The most commonly reported human-caused mortality has been raptor collisions with automobiles, followed by electrocution at power pole perch sites and shooting (RRTAC unpubl. data). These reports are probably biased toward road kills and electrocutions because carcasses are much easier to find on roadways and along power line access routes.

Additional causes of raptor mortality within the NCA include:

1. Hiking and rock climbing. When this activity is carried out in nest territories, it can disrupt courtship, egg laying, incubation, brooding, and feeding of young. Very aggressive raptors tend to attack hikers and climbers for long periods of time, whereas timid raptors tend to leave the nest early and remain away from the nest until the disturbing factor

is well away from the site. Either type of raptor response can reduce the likelihood of successful hatch, brood rearing, or fledging of raptors as the eggs or small young can be killed by either cooling or overheating (John Doremus, Idaho BLM, pers. obser.).

2. Many species of raptors will fly from their nest sites when objects dropped from cliff tops fall past their nest. This can cause the same types of mortality as cited for hiking and climbing. In addition, there is a chance that raptor adults, young, or eggs may be hit by the falling object (John Doremus, Idaho BLM, pers. obser.).

3. Off-road driving may cause nest desertion by adults, or may directly kill nestlings or eggs of ground nesting birds.

4. Taking birds for falconry directly reduces the raptor population, and may impact other raptors that are affected by the capture event.

5. Shooting of firearms inside the Snake River Canyon can directly or indirectly disrupt courtship, egg laying, incubation, brooding, and feeding of young, and can cause nest desertions by adults.

6. Pesticide use (herbicides, insecticides, rodenticides, etc.) can directly kill adults and nestlings, and can cause egg mortality. Pesticide accumulations in the food chain also can adversely affect raptor species.

Fourteen species of raptors breed in the NCA and ten other species winter in or migrate through the area (Appendix C). Of these, there is scientific concern about the habitat and population status of eight species that are considered special status species (see later discussion in this section). A brief discussion on the ecology of five common raptor species found in the NCA follows.

Prairie Falcon

Prairie falcons are locally common throughout the western United States, and breed in hilly and mountainous grasslands and shrublands west of the Great Plains, from southern Canada to southern Mexico (Clark and Wheeler 1987). They usually nest in cavities, on ledges, and in other raptor and raven (Corvus corax) nests on cliffs, outcroppings, and pinnacles.

The number of nesting prairie falcon pairs in the NCA has ranged from 160 to 206. Between 1990 and 1994 number of nesting pairs averaged 182 with the lowest number of pairs (160) recorded in 1994. The average number of young produced per pair has varied from 1.45 in 1982 to 3.34 in 1992 (USDI NBS unpubl. data).

In the NCA, the prairie falcon's breeding cycle is synchronized to take advantage of the seasonal abundance of Townsend's ground squirrels in the area, thereby

increasing productivity. In early spring, prairie falcons arrive in the Snake River Canyon when ground squirrels are first emerging from hibernation. The emergence of juvenile ground squirrels corresponds to the peak of egg-laying in falcons. Most of the eggs hatch after the young ground squirrels emerge from their burrows, increasing the abundance of prey for the falcons. In 1987, prairie falcons that nested successfully at observed aeries in and around the NCA brought in an average of 80 ground squirrels per aerie during the breeding season (Holthuijzen 1987).

These falcons will hunt as far as 23 miles from nest sites to obtain food for their young (Marzluff et al. 1994). Both young and adult falcons leave the NCA by late June to early July when the ground squirrels start estivation (summer hibernation) (USDI, BLM 1979).

Even though there are many species of birds, mammals, and reptiles that can become prey of these falcons, only the Townsend's ground squirrel is abundant and large enough to feed the large numbers of prairie falcons and other raptors in the NCA. From 1974-1978, Townsend's ground squirrels represented 53.4% of the individuals and 59% of the prey biomass in prairie falcon diets (USDI BLM 1979). Townsend's ground squirrels have been the only species that has comprised more than 5% of the prey items. Even after a population crash, ground squirrels still comprised more than 30% of prairie falcon prey (Steenhof and Kochert 1988). The relationship between falcons and ground squirrels is so critical that when drought or other natural factors reduce ground squirrel productivity, prairie falcon productivity is affected in the following years (USDI BLM 1979).

Nesting density in the canyon is related to prey abundance and the availability of nest sites. Falcon pairs have nested within 165 feet of each other, but average spacing between pairs is about 2,000 feet (USDI BLM 1979).

Prairie falcon nest cliffs need to be protected from disturbance during the breeding season, and Townsend's ground squirrel populations must be protected and enhanced.

Golden Eagle

Golden eagles are found throughout the northern hemisphere. They breed in North America from Alaska east to the Maritime Provinces of Canada and south into Mexico. In the U.S. they breed primarily west of the Great Plains (Clark and Wheeler 1987). Despite persecution throughout most of their range these eagles have persisted with fairly stable populations.

Golden eagles usually nest in hilly or mountainous country. They generally place their nest on cliff ledges, but they may also nest in trees or on artificial structures. In years of low prey abundance golden eagles may lay fewer eggs or not breed at all. Traditional nesting territories may be abandoned if prey abundance remains low over several years.

Golden eagles are opportunistic predators and will hunt and kill a variety of animals. In the NCA, eagle productivity is closely associated with the black-tailed jackrabbit population cycle. During years of high rabbit numbers eagle productivity is also high; more pairs lay eggs, more eggs are laid per nest, and more young are fledged. Good jackrabbit habitat is an important component of good eagle habitat in the NCA. Other prey species of importance in the NCA include Nuttall's cottontail (Sylvilagus nuttallii), ring-necked pheasants (Phasianus colchicus), yellow-bellied marmots (Marmota flaviventris), and Townsend's ground squirrels.

Most golden eagles in the NCA have a much smaller home range than prairie falcons, and hunt within four miles of their nests (Dunstan et al. 1976, Marzluff et al. 1992). In the NCA, 36 nesting territories on cliffs have been identified (USDI BLM 1979).

Golden eagle nest territories should be protected from disturbance during the breeding season, and black-tailed jackrabbit habitat within eagle hunting territories needs to be protected, enhanced, or restored.

Red-tailed Hawk

The red-tailed hawk (Buteo jamaicensis) is the most common large hawk over most of North America. Its success is largely due to its dietary flexibility. Red-tailed hawks have a diverse diet and are more likely to "switch" among prey species from year to year (Steenhof and Kochert 1988). Although ground squirrels are the primary prey of red-tailed hawks in the NCA during normal years, they also feed on gopher snakes, kangaroo rats, and rabbits when ground squirrel populations are low (Steenhof and Kochert 1985,1988).

The red-tailed hawk nests on cliffs, in trees, and on artificial structures. In the NCA, there are approximately 130 red-tailed hawk nest territories (USDI NBS unpubl. data). Approximately 60 territories are occupied in any given year. The highest number of nesting pairs counted for one year was 71 in 1980. Some adult birds are year-round residents, but some adults and most young disperse from the area during the fall. Leg bands have been returned from as far away as Central America (Steenhof et al. 1984).

Red-tailed hawk nest sites should be protected from disturbance, and Townsend's ground squirrel habitat should be protected, enhanced, and restored, as ground squirrels represent a major prey item for the hawks.

Northern Harrier

In the western hemisphere, the northern harrier (Circus cyaneus) is found in Alaska and Canada south to northern South America. Northern harriers nest from the central U.S. north to the tree line in Canada and Alaska (Peterson 1961).

The northern harrier is one of the most commonly seen raptors in the NCA. It is considered a "gypsy" species because it breeds and winters in high densities wherever prey is abundant. Harriers build a platform nest on the ground in thick vegetation. It nests in marshes, fields, riparian vegetation, and in pockets of dense residual or live vegetation in the desert.

Harriers hunt close to the ground, and can take prey up to the size of cottontail rabbits and ducks, but usually capture smaller mammals, birds, reptiles, and amphibians.

It is not known if the local population of harriers migrates in the fall, but there is usually an increase in harriers in the fall, indicating a migration into the area.

Northern harrier nesting areas should be protected, especially marsh and riparian areas. Adequate ground cover should be provided as food and cover for prey species that are utilized by harriers.

Long-eared Owl

Long-eared owls (Asio otus) are found in Europe, Asia, northern Africa, and North America. In North America, they are found from the Northwest Territories of Canada south to northern Mexico (Peterson 1961).

In the NCA, the density of wintering and breeding long-eared owls depends on prey abundance. Few birds are found during periods of low small mammal populations. In the NCA, Marks (1980) found that 10 species of small rodents and juvenile cottontail rabbits made up over 98 percent of the species taken and over 97 percent of the biomass in the diet of long-eared owls during the breeding season.

Sixty-three pairs of long-eared owls nested in the NCA in 1980; 41 pairs were found in 1981 (Marks 1981) and 10 pairs were found in 1985 (Doremus and Schroer 1985). The owls generally nest in raptor or corvid stick nests, in cliff or tree cavities, or on the ground. Nest sites in the NCA are limited by the amount of available riparian vegetation and suitable corvid nests.

At fledging, long-eared owls disperse into nearby mountains where at least some of them spend the summer and fall. They return to the NCA in late fall and join winter roosts in willow thickets and Russian olive groves (Ulmschneider 1990). These roost sites can contain 50 or more birds.

Riparian areas where the owls roost and nest should be protected from disturbance, and adequate ground cover should be provided for prey species of the long-eared owl.

Prey Species Ecology

In the NCA, the most important prey species for diurnal raptors during the nesting season are lagomorphs (Nuttall's cottontails and black-tailed jackrabbits) and Townsend's ground squirrels. Reptiles are important in the diet of red-tailed hawks and they are also eaten by other raptors. Fish play a minor role in the diet of most breeding raptors, but they are eaten by migrating osprey (Pandion haliaetus) and wintering bald eagles. Kestrels and burrowing owls (Speotyto cunicularia) take large insects when they are available. Most owls found in the NCA depend on small mammals for their food. Birds can be important food for wintering owls and other raptors when snow cover makes small mammals unavailable.

Prey species exist in the NCA in such abundance because the geology, soils, and climate are highly suited to their needs. The river, riparian vegetation, scree slopes, cliff faces, and varied desert terrain allow a wide range of prey species to exist in high numbers. A discussion on five of the important prey species follows:

Townsend's Ground Squirrel

Townsend's ground squirrels are found from southeastern Washington south through eastern Oregon, southern Idaho, most of Nevada, and western Utah in suitable soil environments (Burt and Grossenheider 1976). In the NCA ground squirrels are usually found in deep loess soils (Johnson and Melquist 1975). These soils can be excavated with ease, yet they do not readily collapse, allowing the burrows to last for several years.

Townsend's ground squirrels are above ground for six months of the year or less. They emerge from hibernation in January or February after snow melt. During years of adequate food Townsend's ground squirrels mate, produce young, double their body weight, and go underground to estivate when summer temperatures rise and plants dry out. These squirrels have one litter of up to ten young a year.

Native and exotic grasses make up a large portion of the ground squirrel's diet (Smith and Johnson 1985). Van Horne et al. (1992) found that winterfat made up a large portion of some ground squirrel's diet, especially that of juvenile ground squirrels on winterfat-dominated sites. On all other sites, Van Horne et al. (1993) found that ground squirrels selected for Sandberg's bluegrass over other available plants. The percentage of Sandberg's bluegrass in the squirrel's diet exceeded the percentage of the grass in the plant community. Yensen and Quinney (1992) found that exotic plants constituted an average of 48 percent of the diet of Townsend's ground squirrels collected at four study sites in the NCA. Overall, Yensen et al. (1992) found that ground squirrel populations fluctuated more in areas where shrubs had been removed by fire, and replaced by exotic annual plants, such as cheatgrass.

Protecting native shrub stands from fire, reestablishing shrub stands lost by fire, increasing the percentage of native grasses in plant communities, and protection from shooting would enhance the ground squirrel population.

Black-tailed Jackrabbit

Black-tailed jackrabbits are found in shrub/grasslands throughout the west (Burt and Grossenheider 1976). As with all native hares in North America, these jackrabbits have population explosions and subsequent crashes at 7-12 year intervals. The highs are usually followed by rapid population decreases over the next 3-4 years. The ratio between peak population numbers and low population numbers can be as great as 135:1 (Anderson and Shumar 1986). Females can have one to several litters a year depending on habitat conditions and other factors (Johnson and Peeks 1984).

In the NCA, jackrabbit populations reach their greatest density near big sagebrush and black greasewood stands. Over a 13-year period (1977-1989) jackrabbit densities in the NCA averaged 0.84 per acre for all habitat types and 1.58 per acre for big sagebrush habitats (Knick 1989). Smith and Nydegger (1985) found jackrabbit densities of 1.95 per acre in big sagebrush and black greasewood communities and 0.57 per acre in big sagebrush/winterfat and winterfat/shadscale mosaic communities.

Jackrabbit habitat has been significantly reduced since 1980 by the loss of big sagebrush due to fires throughout the NCA. Insect damage has also caused a significant impact to sagebrush in localized areas of Owyhee County in the extreme western portion of the NCA.

On Idaho rangelands, Johnson and Peek (1984) found that the jackrabbit's diet varied with the season. Jackrabbits feed on grasses during the spring, grasses and forbs during the summer, and shrubs in the fall and winter. During the winter, green crops and haystacks also can be used.

Jackrabbit home ranges of 47-69 acres have been reported (Johnson and Peek 1984). Movements of 50 miles between the summer and winter range have been reported in Utah (Graham Smith, USFWS, pers. comm.). Food and cover availability appears to be the motivating factor for such movements. Large concentrations of these hares can be found on the wintering grounds.

Protecting existing shrub stands and establishing sagebrush and greasewood stands where they have been lost from natural or human-caused activities would help protect the jackrabbit population.

Kangaroo Rat

Two species of kangaroo rat inhabit the NCA. The Ord's kangaroo rat (Dipodomys ordi) is found throughout the Great Basin and eastern Great Plains from Saskatchewan south to Mexico. The chisel-toothed kangaroo rat

(Dipodomys microps) is found only in the central Great Basin, just reaching into the Snake River Plain in southern Idaho (Burt and Grossenheider 1976). The Ord's kangaroo rat feeds primarily on seeds, whereas the chisel-toothed kangaroo rat specializes in eating the leaves of shadscale plants.

In some areas kangaroo rats are a major food source for burrowing owls, long-eared owls, barn owls (Tyto alba), and western screech-owls (Marks 1984, Marks and Marti 1984, Barrows 1989). Although kangaroo rats are eaten by many diurnal raptors, they generally make up only a minor portion of their diet.

Kangaroo rat populations fluctuate with their food supply and other external factors. Populations are reduced by the removal of native vegetation. In the Chihuahuan Desert, Brown and Heske (1990) found that kangaroo rats were a "keystone guild," in that they had a major influence on the biogeochemical process and biological diversity within their habitat through seed predation and soil disturbance.

Protection of native shrub habitat, enhancement of native grasses, and establishment of native shrubs in areas where they have been lost by natural or human-caused events will help stabilize the kangaroo rat population.

Deer Mouse

Deer mice (Peromyscus maniculatus) are found in habitats ranging from Sonoran desert to arctic woodland throughout most of North America except for the southeastern U.S. (Burt and Grossenheider 1976). Deer mice are active all year and their abundance is tied to their food supply and cover. These mice eat seeds, fruit, tubers, fungi, and insects and other invertebrates.

Montan (1977) found that the densities of deer mice in the NCA varied by vegetation type and season. The density of deer mice in the spring in shadscale was 5.4 mice per acre, but only 0.16 mice per acre were found in vegetation that had burned the previous year. Summer densities ranged from 0.1 to 4 mice per acre in big sagebrush and shadscale south of the Snake River. Fall densities ranged from 1.3 mice per acre in big sagebrush communities north of the river to none in winterfat and cheatgrass sites.

Marks and Marti (1984) found that deer mice consisted of up to 50 percent of all prey taken at some long-eared owl sites and 27 percent of all prey taken by some barn owls. The percentage of deer mice in the diets of various raptors have been found to be 13 percent for northern saw-whet owls (Aegolius acadicus) (Marks and Doremus 1988), 8 percent for western screech-owls (Doremus and Marks 1982), and 2 percent for prairie falcons (USDI BLM 1979).

Gopher Snake

The gopher snake (Pituophis catenifer) is found from southern Canada into central Mexico. Adults range up to 8 feet in length in the southern portion of

their range (Stebbins 1966). Gopher snakes are active during the day except during hot weather, and are good climbers and burrowers. Gopher snakes hibernate in the northern portions of their range, sometimes with other snake species.

Diller (1981) found that gopher snake densities in the NCA averaged 0.7 snakes per acre. The most common prey for these snakes are Townsend's ground squirrels, Nuttall's cottontails, and deer mice. In turn, these snakes are important prey of red-tailed hawks and are also taken by golden eagles and ferruginous hawks.

Enhancing ground squirrel populations will provide both food and shelter for gopher snakes. Denning areas should be protected.

Special Status Species Management

Special status species management is a priority emphasis for management of all public lands. Several categories have been developed by federal and state agencies to rank the scarcity of, and threats to, species. The Endangered Species Act (ESA) created several categories based on species scarcity, threats, and information. These categories are used by all federal agencies, and species are regularly listed in the Federal Register as to their status. In addition to the federal categories under the ESA, BLM in Idaho has a "sensitive species" list designated by the State Director, and the State of Idaho has a "species of special concern" list developed by IDFG.

Twenty-four special status animal species are found in the NCA (BLM/IDFG 1985; Moseley and Groves 1992; Lobdell 1994) (Appendix H). The habitat needs of eight of these species are not well enough understood to allow effective management.

Threatened and Endangered Species

Bald eagle

The bald eagle, a winter visitor to the NCA, was recently reclassified as threatened. Eagles gather along reservoirs and rivers where fish and waterfowl are found. Protecting existing roost and perch trees on public lands, planting additional roost and perch trees along the Snake River, and working with other entities to improve water quality in the Snake River will enhance this area for bald eagles.

Peregrine Falcon

Endangered peregrine falcons are uncommon to rare migrants in the NCA. There is an historical nest site at the confluence of the Snake and Bruneau rivers. This site has not been occupied since the 1950s. A single female per-

egrine resided in the area below Swan Falls Dam for four years from 1972 through 1975.

In 1974, BLM and the Peregrine Fund initiated a program to release peregrines in the NCA. The Peregrine Fund cross-fostered peregrine chicks into prairie falcon nests in the NCA in 1977-1979. The cross-fostering program was abandoned when the Peregrine Fund found it less successful than other release methods.

No specific management actions are anticipated for peregrine falcons at this time.

Idaho Springsnail

In the past, the endangered Idaho springsnail (Fontelicella idahoensis) was found along 138 miles of the Snake River in Idaho, from Homedale upstream to Bancroft Springs. It lives in permanent flowing water of the Snake River and is not found in any of the tributaries or in marginal springs. Today it's found from the headwaters of C. J. Strike Reservoir to Bancroft Springs, a distance of 35 river miles. Since 1987, the snail has been found at only three sites in this area (USDI FWS 1994).

The approximate 36 river miles of permanent flowing water from C. J. Strike Reservoir to the west boundary of the NCA should be searched for the Idaho springsnail. Improving the quality of water in the Snake River will enhance springsnail habitat.

Candidate Species

Ferruginous Hawk

The ferruginous hawk ranges from southern Canada to Mexico, and from the Great Plains to the West Coast. It breeds from southern Canada throughout the western U.S. (Clark and Wheeler 1987) and nests in trees, on cliffs, on artificial structures, and on the ground. Ground squirrels, pocket gophers (Thomomys sp.), and jackrabbits are commonly taken prey. Habitat alteration and human disturbance at breeding sites appear to be a main cause of local population declines (Olendorff 1993).

In the NCA, population fluctuations of ferruginous hawks may be tied to the availability of prey (Woffinden and Murphy 1977). Many nest sites are available on natural and artificial structures.

Habitat protection and enhancement, placement of artificial nest structures in the NCA, and protection of nest sites from disturbance may increase the production of ferruginous hawks.

Northern Goshawk
Northern goshawks (Accipiter gentilis) migrate through the NCA in spring and fall, and a small population winters in the area. These wintering hawks are usually found in wooded areas.

Wintering goshawks would benefit from improved riparian woodland areas, and migrant goshawks would benefit by the reestablishment of native shrub stands that provide mammalian prey.

White-faced Ibis
The white-faced ibis (Plegadis chihi) is occasionally found from spring through fall in the NCA and is most often seen in ponds or irrigated fields.

Feeding opportunities for white-faced ibis could be enhanced by development of ponds and marshes.

Trumpeter Swan
Trumpeter swans (Cygnus columbianus) were introduced into the NCA in the winter of 1990. This was part of an ongoing program by the USFWS and IDFG to disperse the wintering population of swans. These swans are found along the Snake River from Swan Falls Dam upstream and in adjoining ponds and marshes.

Feeding opportunities for trumpeter swans could be enhanced by the development of ponds.

Black Tern
In the NCA, black terns (Chidonias niger) migrate along the Snake River in spring and fall. Black terns require aquatic habitats with extensive stands of emergent vegetation and large areas of open water. The habitat they use in the area makes it unlikely that BLM management would affect their population.

Feeding opportunities for black terns could be enhanced by the development of ponds and marshes.

Loggerhead Shrike
The loggerhead shrike (Lanius ludovicianus) is found from southern Canada to southern Mexico (Peterson and Peterson 1990). The NCA is one of the northernmost areas supporting a wintering population of these birds. The loggerhead shrike preys on small mammals, birds, reptiles, and large insects in semi-open to open shrublands. The availability of perches on rocks, trees, shrubs, fences, and utility wires or posts is an important factor in habitat selection (Woods 1994).

This shrike has been a common nester in shrub habitats in the NCA. However, nesting populations have been reduced by the loss of shrub habitat from wildfire (John Doremus, Idaho BLM, pers. obser.).

Feeding and nesting opportunities for loggerhead shrikes could be improved by the reestablishment of sagebrush and greasewood stands where they have been lost, and improvement of riparian habitat would benefit wintering loggerhead shrikes.

Pygmy Rabbit

The pygmy rabbit (Brachylagus idahoensis) is the smallest rabbit in North America. It is found in the Great Basin and adjacent intermountain areas of the western U.S., with a disjunct population in east central California (Burt and Grossenheider 1976).

Pygmy rabbits are found in greasewood, big sagebrush, and sagebrush/juniper habitat with deep loose soils (Maser et al. 1984). Dense, tall big sagebrush is the preferred habitat (Green and Flinders 1980). Sagebrush makes up as much as 99 percent of this rabbit's winter diet and 51 percent of the summer diet, with grass and forbs at 39 percent and 10 percent of the summer diet, respectively (Wash. Dept. Wildl. 1993).

Pygmy rabbits have been observed in the NCA during jackrabbit surveys. The highest population count was in 1987 when there were 27 sightings (Doremus and Bolln 1987). They appear to be limited to dense big sagebrush stands along Swan Falls Road in the vicinity of Initial Point. However, little is known of their habitat needs, population status, or distribution in the NCA. Loss of big sagebrush from wildfires and other causes has likely reduced their distribution.

Protection of existing big sagebrush and greasewood stands and reestablishment of these shrubs where they have been lost will help the survival of this rabbit.

Townsend's Big-eared Bat

This bat (Plecotus townsendii) is found from southern British Columbia throughout the western U.S., south through central Mexico and east in a narrow band from Oklahoma to Virginia and Pennsylvania (Burt and Grossenheider 1976). It is an insectivorous bat that normally roosts in caves, mine shafts, and buildings, and produces one young per year (Maser et al. 1984).

The distribution and habitat of this bat is unknown in the NCA at this time. A study should be initiated to establish the bat's presence or absence in the NCA.

Spotted Bat

This bat (Euderma maculatum) inhabits arid country from southern Montana south into Mexico, west to Nevada and southern California (Burt and Grossenheider 1976). Although spotted bats have been seen along the Snake River from Swan Falls Dam to C. J. Strike Reservoir, nothing is known about their distribution, population status, or habitat use in the NCA.

A population study of this bat should be done in the NCA.

Redband Trout
The redband trout (Onchorhynchus mykiss gibbis) has evolved adaptations to live in harsh environments, characterized by extremes of water temperature and flow in southern Oregon, western Idaho, and northern Nevada. Mixing of redband trout with other subspecies of O. mykiss has occurred over most of their range (Behnke 1992). These trout are probably found in the Snake River, Sinker Creek, and Bennett Creek in the NCA.

Improvement of riparian vegetation and water quality would enhance the habitat for this trout.

Idaho Dunes Tiger Beetle
This beetle (Cicindela arenicola) is found in Idaho in Jefferson, Clark, Bonneville, Power, Blaine, Minidoka, Fremont, and Owyhee Counties (Makela 1994). In the NCA the Idaho dunes tiger beetle is found at the Bruneau Dunes State Park and at a site 8 miles east of the park.

Baker et al. (1994) found that larval beetles at the Bruneau Dunes State Park were most commonly found in stable areas with less than 50 percent sand, with 30-50 percent gravel surface, and with little vegetative cover. BLM is working with the Idaho Department of Parks and Recreation and local ranchers to protect dunes where the beetle is found. Further investigations of dune areas for the Idaho dunes tiger beetle in the NCA should be initiated.

Idaho Sensitive Species

Swainson's Hawk
This hawk (Buteo swainsoni) nests throughout the west from southern Alaska to northern Mexico, and generally winters as far south as Argentina (Peterson and Peterson 1990). It occupies open country, inhabiting western grasslands, and nests principally in trees and shrubs. In the NCA, the Swainson's hawk is found in association with riparian areas and agricultural lands. The number of nesting pairs varies with the availability of nest trees.

Fourteen nesting territories have been identified within the NCA, but only three have been occupied in any given year (Karen Steenhof, NBS, pers. comm.).

Improvement of riparian woodlands would increase the nesting habitat for this species.

Burrowing Owl
In North America, burrowing owls (Speotyto cunicularia) nest from interior Canada to central Mexico, wintering from the southern U.S. south to Panama.

Burrowing owls are very common in the NCA, inhabiting open country, and utilizing burrows dug by other animals or natural cavities in rock outcroppings. They feed on insects, amphibians, reptiles, birds, and mammals ranging in size up to cottontail rabbits (Zarn 1974). Eighty-seven occupied burrowing owl sites were found in the NCA in 1994 (Lehman et al. 1994).

Protection of native rangelands would help protect the population of this owl.

Merlin
In North America, the merlin (Falco columbarius) breeds from western Alaska across Canada, and south into central Oregon and Wyoming. Some merlins winter south well into Mexico (Peterson and Peterson 1990). In the NCA, merlins are occasionally seen in migration or wintering. No management actions are required.

Gyrfalcon
The gyrfalcon (Falco rusticolus) is an uncommon to rare falcon of the arctic barrens, seacoast, and mountains. It breeds in North America from the Aleutians and arctic Alaska to Greenland (Snow 1974). It is a rare winter visitor to the NCA, and no management actions are required.

Long-billed Curlew
Curlews (Numenius americanus) nest in grasslands ranging from moist meadows to very dry prairie from southwestern Canada to northern New Mexico (DeGraff et al. 1991). In the NCA, this curlew is found nesting in varying densities in grasslands (John Doremus, BLM, pers. obser.).

Because curlews are thriving in burned and grazed habitats, no specific management actions are indicated for this species.

American White Pelican
These pelicans (Pelecanus erythrorhynchos) nest from northern Alberta to southern New Mexico and Arizona, and from western British Columbia east to Wisconsin and Illinois. White pelicans winter along the Pacific Coast from central California south to Central America, and from Florida and the gulf states south (DeGraff et al. 1991). Although white pelicans are a common summer bird along the Snake River in the NCA, there are no breeding colonies in the NCA.

Establishing large ponds and marshes may provide additional habitat for white pelicans.

Mojave Black-collard Lizard
This lizard (Crotaphytus bicinctores) is found from southwestern Idaho, Nevada, and western Utah, into western Arizona. It inhabits rocky terrain where vegetation is sparse (Stebbins 1966). It is uncommon in the NCA.

Protection from collection would help ensure the presence of this lizard in the NCA.

Longnose Snake
The longnose snake (Rhinocheilus lecontei) is found from southern Idaho into Baja California and southern Arizona. It inhabits deserts, prairies, and brushlands. It is nocturnal and crepuscular, spending daylight hours in burrows (Stebbins 1966). The population status and distribution of the longnose snake in the NCA is unknown. However, from its abundance as prey found in certain red-tailed hawk nests, it may be locally common in some areas (John Doremus, Idaho BLM, pers. obser.)

Better information on the distribution of this snake and protection from collection would help ensure its presence in the NCA.

Ground Snake
The ground snake (Sonora semiannulata) is found from southwestern Idaho and eastern Oregon south to northern Mexico. This nocturnal snake inhabits arid and semi-arid regions from river-bottoms to desert flats and rocky hillsides. It is a burrowing reptile that eats invertebrates (Stebbins 1966). Johnson and Diller (1977) found the ground snake locally common in the NCA and the fourth most abundant snake in the area.

Protection from collection would help conserve this species in the NCA.

Night Snake
The night snake (Hypsiglena torquata) is found from south central Washington south to Baja California and Costa Rica, and east to southwest Kansas and east Texas in varied habitat from woodlands to desert plains. The night snake is nocturnal, mildly venomous, and feeds on lizards and frogs (Stebbins 1966). Johnson and Diller (1977) found that the night snake tied with the gopher snake as the second most abundant snake taken by drift fence trapping. It is found around rocky canyon rims and rock outcroppings.

Protection from collection would help conserve this species in the NCA.

River Otter
River otters (Lutra canadensis) inhabit fresh water streams and lakes from Northern Alaska and Canada to Florida, east Texas, and southern Arizona. In the NCA they are found in the Snake and Bruneau Rivers. They have been seen in family groups in the reach between Loveridge Bridge and Indian Cove Bridge and in the marsh at the mouth of the Bruneau River.

Improvement of water quality in the Snake and Bruneau Rivers would benefit river otters in the NCA.

White Sturgeon

White sturgeon (Aciperser transmontanus) are found along the Pacific coast of North America, and reproduce in at least the Sacramento, Columbia, and Frasier river drainages. Historically, white sturgeon were found in the Snake River from the Columbia River to Shoshone Falls. Currently, three populations of sturgeon are found in the NCA. From west to east they are the Brownlee Reservoir to Swan Falls Dam, Swan Falls Dam to C. J. Strike Dam, and C. J. Strike Dam to Bliss Dam populations. Sturgeon are most abundant between C. J. Strike Dam and Bliss Dam, with an estimated population of between 1500 and 4300 fish (USDI FWS 1994). The populations of sturgeon in the other reaches in the NCA are not well studied. Sturgeon are caught in both of the lower reaches and are heavily fished below Swan Falls Dam.

A study of the sturgeon population between Swan Falls and C. J. Strike dams would help to understand its reproduction and age structure in this reach of the river. Improved water quality would benefit this fish throughout the NCA.

Water Quality Management

BLM is required by the Federal Water Quality Act of 1987 to comply with State of Idaho water quality standards. To do this, BLM must implement Best Management Practices to ensure that BLM activities maintain or improve water quality to State standards. The entire stretch of the Snake River within the NCA is designated as a Water Quality Limited Segment by the U.S. Environmental Protection Agency. The primary pollutant is sediment from irrigation runoff.

Most pollutants in the Snake River are the result of non-BLM activities. Therefore, opportunities to improve water quality are primarily limited to private individuals and companies, and to some degree, other public agencies.

Water quality is linked with water quantity. High flows not only reduce pollutant concentrations, but also flush out nutrient and sediment loads. Nutrient and sediment input to the river is cumulative. Improved water quality that benefits stretches of the river through the NCA will also improve conditions downstream in areas such as Brownlee Reservoir. One way in which BLM can help improve the water quality of the Snake River is to improve the water quality of tributary streams to the Snake River that flow through BLM-managed lands.

Historically the Idaho springsnail was found from Homedale (River Mile 415) to Bancroft Springs (River Mile 553). Currently the springsnail is discontinuously distributed from the headwaters of C.J. Strike Reservoir (River Mile 518), which is within the NCA, upstream to Bancroft Springs. This is nearly an 80% reduction in historic range. In addition, repeated sampling of occupied sites has

shown the number of snails has declined and populations are small. Live specimens have only been collected at three sites (USDI FWS 1994).

In general, the listed Snake River snail species (this includes the Idaho Springsnail) require cold, well-oxygenated, unpolluted water for survival. Any factor leading to further deterioration in water quality would likely extirpate these species (USDI FWS 1994). The first task outlined in the Snake River Snails Draft Recovery Plan is to secure, restore, and maintain essential aquatic habitats between C.J. Strike Reservoir and American Falls Dam. Initial recovery efforts will require the development of appropriate water quality standards.

The Idaho Water Quality Status Report and Nonpoint Source Assessment (IDHW-DEQ 1989) listed the Snake River from C.J. Strike Reservoir to Swan Falls as not supporting salmonid spawning, and supporting, but at risk, domestic and agricultural water supply, cold and warm water biota, and primary and secondary contact recreation uses. The major pollutant within this stretch of the river is sediment from irrigation return water.

The loss of springsnails downstream of C.J. Strike Reservoir and the non-support of salmonid spawning in this segment of the river is not a coincidence. Both the snails and salmonids require cold, clean water, which is no longer available downstream of C.J. Strike reservoir in the amounts required by these animals.

Water quality in the Snake River is also an issue for white sturgeon, especially during low flow periods. In 1990, 27 sturgeon died at the upper end of Brownlee Reservoir when dissolved oxygen (D.O.) levels dropped to lethal levels as the result of hot weather, low stream flows, and resulting increased nutrient loads in the river (IDFG 1990). There is a potential for similar fish kills in other reservoirs on the river.

The impacts of poor water quality on adult fish are the easiest to detect, but other life stages of the fish are probably more sensitive to poor water quality. Sturgeon embryos and pre-larvae are less tolerant of low D.O. levels, requiring D.O. levels within 80% of saturation levels (Dettlaff et al. 1993). Water quality also affects sturgeon food sources. Sand and gravel bars inhabited by molluscs are important foraging areas for sturgeon and this habitat is impacted by sediment input from irrigation return water.

In July 1990, large numbers of whitefish died in the Swan Falls reach of the river. Whitefish kills have been common in the river and appear to be caused by high water temperatures (IDFG 1990). In addition to the sturgeon that died in the Brownlee Reservoir reach of the Snake River in 1990, numerous smallmouth bass, crappie, channel catfish, and large scale suckers died. Improved water quality in the Snake River would benefit river otters by maintaining the fish populations upon which the otters feed.

Game Management

Idaho hunting and fishing regulations allow for seasonal hunting, fishing, and trapping for many game animals in the NCA. There are portions of five state hunting units in the NCA. Most hunters in the NCA hunt waterfowl, upland game birds, or rabbits. A resident herd of mule deer (Odocoileus hemionus) are found along the Snake River. Small groups of antelope (Antilocapra americana) are found in the area. Most furbearer trapping is for muskrat (Ondatra zibethica) and bobcat (Felis rufus). The Idaho State Legislature has declared coyotes (Canis latrans), jackrabbits, skunks (Spilogale sp.) and (Mephitis sp.), and weasels (Mustela sp.) to be predatory and they may be hunted or trapped throughout the year.

Fourteen fish species are fished for in the Snake River. Sturgeon, trout, catfish, and bass fishing are popular recreational activities in the NCA. Although BLM has not been involved in specific fish management programs within the NCA, it is trying to improve habitat for redband trout.

BLM has not emphasized habitat management for game species in the NCA, but has constructed and maintains several goose nesting platforms on islands in the Snake River. IDFG also maintains over 100 goose nest platforms and several dozen wood duck nest boxes in and near the NCA. Protection of nest structures from disturbance during the breeding season would improve the success of breeding waterfowl.

Improvement in native shrub and riparian habitat would provide food and cover for many species of game and furbearing mammals, upland game birds, and waterfowl. Improvement of water quality in the Snake River and its tributaries would enhance the habitat of the sports fishery.

Nongame Management

Most wildlife in the NCA, including raptors and their prey, are classified as nongame species. All nongame birds except the starling (Sturnus vulgaris), house sparrow (Passer domesticus), and rock dove (Columba livia) are protected by state law. Permission from the IDFG director is necessary before protected wildlife species, including live eggs, can be kept in captivity, exported, or sold in Idaho.

Under IDFG permit, raptors may be taken for falconry purposes in all portions of the NCA except the previously designated Natural Area. This is inconsistent with the purposes for which the NCA was established. The IDFG should be encouraged to extend the restriction on the taking of raptors for falconry over the entire NCA.

To-date, no policy exists on whether hand-reared or rehabilitated raptors should be released into the NCA. A consistent policy should be developed to ensure that actions taken to release raptors are in the best interests of the raptors being released, as well as other raptors affected by the release.

Collection of native lizards for commercial and hobby purposes in the NCA and surrounding public lands is increasing. Collection and captivity of reptiles and amphibians is limited to four of each species per individual unless otherwise authorized by the Idaho Fish and Game Commission or IDFG director. Most lizards are easy to find and catch, and localized extirpation for certain species (e.g. Mojave black-collared lizard) is a growing management concern.

Habitat alteration has had the greatest impact on wildlife in the NCA. When shrub species disappear, vertebrate diversity declines. Johnson and Diller (1977) found no lizard species in grass habitat, but lizards were found in all other habitat types sampled.

Knick and Rotenberry (1995) found that fragmented shrub communities are less likely to be occupied by shrub-obligate birds, such as sage and Brewer's sparrows and sage thrashers. Yearly variation of shrub-obligate species was related to landscape characteristics of the shrub patches. They conversely noted that typical grassland species, such as horned larks and meadowlarks, are associated with loss of shrublands and the size of grassland patches. Shrub habitat fragmentation also increases the likelihood of brown-headed cowbird (Molothrus ater) parasitism, a serious problem for many nongame birds. Black-tailed jackrabbits, cottontail rabbits, and pygmy rabbits are greatly reduced or disappear from areas where shrubs are lost.

The increase in exotic annual grasses and forbs has been detrimental to many nongame species. Besides the loss of important shrub cover, large expanses of annual grasses and forbs may act as barriers to the movement of small mammals, birds, reptiles, and amphibians. Certainly the diversity and abundance of prey species are altered with the change in habitat.

Protection, enhancement, and reestablishment of native habitat would enhance populations of most nongame species. Reestablishing shrub stands and improving riparian areas will have the greatest impact on nongame animals. Where appropriate, artificial nest sites should be provided for birds.

Management Actions

Raptor Protection and Enhancement

1) Develop information, education, and enforcement programs to reduce or stop inappropriate human activities that are directly or indirectly detrimental to raptors and their habitat.

2) To protect remaining native shrub habitat and restore native plant communities:

   a. Control fires in the NCA as quickly as possible.

   b. Rehabilitate ineffective vegetation fire breaks to aid in fire control and suppression.

   c. Aggressively rehabilitate disturbed areas to reestablish native plants.

3) Encourage the Idaho Department of Fish and Game to eliminate the taking of any and all raptor species for falconry purposes within the NCA boundaries.

4) Encourage affected state and county officials to provide more stringent enforcement of existing speed limits on state and county roads within the NCA.

5) Prohibit rock climbing and rapelling within the Snake River Canyon. The BLM authorized officer may issue specific permission for rock climbing/ rapelling for research purposes on a case-by-case basis.

6) Encourage the Federal Aviation Administration to invoke an aircraft closure prohibiting commercial and recreational aircraft from flying lower than 1,000 feet above the Snake River Canyon rim within the NCA, or to designate the area as a special air management zone. Emergency or administrative aircraft would be authorized.

7) Close public lands year-round to the discharge of rifles and pistols within the Snake River Canyon from Gold Island (near Grandview) downstream to Celebration Park except for the deer hunting season in Hunting Unit 40 on the south side of the Snake River (See Map G). Shotguns and muzzleloaders will be allowed within this area only from September 1 to February 14. The width of the closed area will be 1/2 mile from the river or 100 yards back from the canyon rim, whichever is greater. The use of firearms within this area for law enforcement or other administrative purposes is exempt from the shooting closure.

8) Close year-round to the discharge of rifles and pistols the portion of the NCA located north of the Pacific Power & Light Company 500 kV electric transmission line and west of Swan Falls Road (see Map G). Within this area organized groups may apply to develop and manage a target shooting range(s). Groups wishing to apply for this privilege will be required to show that they are able to adequately develop, manage, and maintain the site to avoid adverse impacts to other users in the area. The use of firearms

within this area for animal damage control and law enforcement is exempt from the shooting closure.

9) Continue the public access and shooting closure within the artillery impact area of the National Guard Orchard Training Area. The closure does not affect military training activities.

10) Encourage the Idaho Department of Fish and Game to incorporate the above safety-related shooting closures in the Idaho fish and game regulations

11) Monitor recreational use within the NCA to determine whether shooting closures cause significant spatial changes in recreational shooting within the NCA and what impacts these changes have on resources and other recreational users. If significant impacts are detected, closure area boundaries will be modified to mitigate the impacts.

12) Except for those areas specified within the Owyhee Front SRMA and the Fossil Creek OHMV Management Unit, declare the entire NCA a Designated Vehicle Management Area (OHMV Limited Level 6), requiring that privately-owned vehicles remain on designated roads, ways, or trail routes only. Roads, ways, and trails not specifically designated for travel will be closed to vehicle use. No cross-country vehicular travel will be allowed except as specifically permitted on a case-by-case basis by the BLM authorized officer, or by formal agreement with BLM (for instance, as in the case of IDARNG, raptor researchers, grazing permittees, Idaho Power Company). Signing of designated roads and road closures will be implemented in a phased manner as manpower and funding allow.

13) Where possible, use biological agents to control insects and animals within the NCA. Poisons and pesticides to kill insects or animals on public lands within the NCA may be used only with the permission of the authorized officer. The use of herbicides will be limited to those approved in BLM's Vegetation Treatment EIS.

14) Limit the placement of artificial nest structures, hack sites, and photography blinds to specific projects that are deemed beneficial to raptor populations, education, or that will provide scientific data needed to manage the NCA. Any structure not presently authorized in the NCA will require environmental analysis to assess the biological, aesthetic, and scientific impact of the structure. Any new structures placed within the NCA should be unobtrusive in form and placement, where possible. Natural materials occurring in the area should be used to build the structures whenever possible. Existing structures may be maintained as long as they fulfill the purpose for which they were built. However, where possible, these structures will be replaced by aesthetically more suitable structures.

15) Include the following stipulation in all rights-of-way granted by BLM for electric power lines within the NCA:

> "Unless otherwise agreed to in writing by the authorized officer, powerlines shall be constructed in accordance with standards outlined in "Suggested Practices for Raptor Protection on Power Lines" (Olendorff et al. 1981 and subsequent revisions). The holder shall assume the burden and expense of proving that pole designs not shown in the above publication are "eagle safe." Such proof shall be provided by a raptor expert approved by the authorized officer. The BLM reserves the right to require modifications or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States."

16) Coordinate with affected power companies to have specific power pole(s) retrofitted or replaced with ones having a raptor proof design, where the subject pole(s) are determined to be a safety hazard for perching raptors.

Habitat Rehabilitation

17) Improve riparian areas by protecting them from grazing and by planting native species.

18) Where undesirable exotic plants are well established, BLM will:

    a. Search for effective biological, chemical, and mechanical controls for these plants.

    b. Follow effective control with seedings of native species or desirable and adapted exotic species.

19) In coordination with affected users, develop an overall conservation/rehabilitation plan for the NCA. Reseed disturbed areas and unsuccessful habitat rehabilitation projects to establish a shrub and perennial grass component that will provide high quality raptor and/or raptor prey habitat. Treated areas will be prioritized on the basis of site potential and ecological status, with winterfat sites receiving first priority.

Special Status Wildlife Species Management

20) Develop monitoring plans and Conservation Agreements for listed federal Category 1 and 2 species. Where possible, the Conservation Agreements will address multiple species. Where monitoring indicates that habitats or populations are declining or are in unsatisfactory condition, specific actions

will be identified and implemented to enhance the affected habitats or populations.

21) Coordinate with appropriate federal, state, and local entities to develop programs and policies that will protect species of special concern from uncontrolled harvest by humans.

22) Where needed, initiate research to enhance current knowledge of special status species and their habitats within the NCA.

23) Establish additional roost and nest trees along riparian zones by planting cottonwood poles and/or seedlings.

24) Support the improvement of water quality in the Snake River.

25) Encourage and help finance, through challenge cost share funding, further investigation of the location, population, and habitat needs of the Idaho Springsnail.

26) Improve the density and diversity of riparian vegetation to increase hunting opportunities for goshawks and wintering loggerhead shrikes, and to provide nest sites for Swainson's hawks.

27) Develop shallow ponds and marshes for loafing and feeding areas for white-faced ibis, trumpeter swan, black tern, and American white pelican.

28) Help fund a study on the habitat use of pygmy rabbits in the NCA.

29) Help fund a study to determine if the Townsend's big-eared bat is found in the NCA, what its habitat needs are, and if any hibernate in the area.

30) Help fund a study to determine the habitat needs of the spotted bat.

31) Improve habitat for redband trout by:

    a. Improving riparian vegetation along Sinker Creek in the NCA.

    b. Making the culvert under Highway 78 at Sinker Creek safe for fish passage.

    c. Work with other entities to improve water quality in the Snake River and its tributaries.

32) Protect known Idaho dune tiger beetle sites from livestock damage and invasion of exotic plants. Fund further inventory for this beetle in the NCA.

33) Help fund a study of the white sturgeon population in the reach of the Snake River between Swan Falls Dam and C.J. Strike Dam. Work with other entities to improve the water quality in the Snake River.

34) Study the distribution of, and encourage enforcement of state collection laws for the Mojave black-collard lizard, longnose snake, ground snake, and night snake.

35) Improve riparian habitat along the Snake River and its tributaries in the NCA to increase the productivity of game species, including upland game birds, waterfowl, some fur bearers, and upland game animals. Develop ponds and marshes to increase the productivity of these same species. Goose nest platforms in the area will be maintained.

Fire History

Records do not exist to document the number, frequency, or extent of early fires in the area (Yensen 1982). Wright et al. (1979) estimated an average fire frequency of approximately 50 years (32 to 70 years) in some big sagebrush communities, based on the abundance and longevity of resprouting shrub species, such as rabbitbrush (Chrysothamnus sp.) and horsebrush (Tetradymia sp.). Winward (1984) suggests that fire had little or no influence on salt desert shrub vegetation, and was a rare occurrence on some drier Wyoming big sagebrush habitat types due to the inherent low production of herbaceous fuels.

With the introduction of cheatgrass, wildfire became more frequent. Cheatgrass-dominated communities burn approximately every 3-15 years. In addition, each successive fire consumes more of the surrounding unburned shrub communities. Two or three successive fires on the same site in a short time will kill shrub seedlings and eliminate the seed bank (Winward 1984). No native shrub species (not even rabbitbrush) can survive this situation.

In the 1920s, organized fire suppression began on a regular basis on the Lower Snake River Plain. Suppression efforts reduced the size and extent of most

Wildfire has destroyed over half of the shrub cover of the NCA since 1980.

wildfires. Prior to suppression fires burned at intervals of approximately 20-30 years (Winward 1984). However most of these fires probably burned with lower intensity.

In the 1970s and 1980s vegetation in the NCA was composed of large and dense stands of big sagebrush with cheatgrass as the major understory. Fire conditions at the time were such that wildfire burned with high intensity and consumed over half the shrub communities in the NCA. Appendix L shows the fire occurrences from 1980 to 1994.

Since 1980, human- and lightning-caused fires have consumed approximately 393,000 acres. Of this total over 169,000 acres have burned more than once. Not counting the OTA (for which we have very little data), approximately 266,000 acres, or about 55 percent of the total area in the NCA, have burned at least once.

The fire season usually extends from June 1 through September 15 with the greatest number of fires and the largest acreage burned during July and August. The BLM Lower Snake River District averages two to three wildfires per day during the fire season. Multiple fire occurrences (more than five fires per day) are usually caused by unstable weather involving winds and lightning. The largest acreage usually burns when several fires occur in one day. As many as 33 fires have been recorded in one day in the Lower Snake River District.

Over the past 15 years an average of 19 fires per year have burned in the NCA, averaging over 26,000 acres consumed per year. Of the average acres burned per year over 11,000 acres (43%) were in re-burn areas. Fire size has averaged over 1,400 acres. These fire statistics do not include acreage burned within the OTA. Although much of the OTA has burned in the past, no total acreage figures are available.

Approximately 72 percent of the recorded wildfires, including those acres burned more than once, were human-caused, burning over 117,000 acres. The greatest number of fires occurred in the Mountain Home area, including the area around the Mountain Home Air Force Base, followed by fires occurring adjacent to Interstate 84 and railroad tracks. The area around Swan Falls Road and the greater Boise area have the third highest number of fire occurrences.

Lightning has accounted for about 28 percent of the fires throughout the NCA, burning over 274,000 acres. One-quarter to one-third of the re-burn acreage resulted from lightning-caused fires. Discounting fires occurring within the OTA, lightning-caused fires result in as much as five times the acres burned per fire as human-caused fires.

National BLM Fire Suppression Policy

Current BLM policy requires that appropriate actions be taken to suppress all fires on or threatening public lands. Appropriate actions are based upon a preplanned analysis consistent with land management objectives. Fire suppression actions are planned and executed to minimize suppression costs and resource loss, consistent with those objectives. No wildfire situation, with the possible exception of a threat to human life, requires unnecessary exposure of firefighters and equipment to threatening situations. Whenever multiple fires occur priorities are determined by the Fire Management Activity Plan (FMAP) objectives and by an assessment of fire potential and values-at-risk. Objectives and values-at-risk are both predetermined and assist in evaluating fires for potential resource damage, suppression costs, "net resource value change," and suppression strategies.

Structural firefighting is not BLM's functional responsibility. However, BLM may assist in suppressing structure fires in emergency situations to save lives and private property or to keep fire from spreading to public lands. BLM also cooperates with adjacent landowners to suppress wildfire threatening public resources, where efforts are cost effective and the results will enhance BLM's fire management program.

District Fire Suppression Policy

The policy for the Lower Snake River District is to suppress wildfire with the least amount of surface disturbance possible. Whenever burning conditions and terrain are such that direct attack is not feasible, the suppression strategy is to burn-out from existing natural barriers and established control points, such as roads or greenstrips.

Surface disturbing equipment, such as bulldozers, are used in accordance with the FMAP. First priority is clearing of existing roads and second priority is construction of new control lines. Allowable surface disturbance is limited to the absolute minimum throughout the NCA. No mechanical surface disturbing equipment is allowed on areas containing known designated or suspected cultural values, identified paleontologic sites, or other sensitive areas.

Related Existing Plans

The BLM Lower Snake River District Fire Management Activity Plan (FMAP) was prepared in 1993 and is currently awaiting Washington Office approval. The FMAP addresses all aspects of the fire management program, including an economic analysis, and is integrated with the BLM planning process. It uses fire management zones (FMZ) to identify broad vegetative communities and to

establish fire management objectives and constraints for each zone. Most of the NCA, including all that portion lying north of the Snake River, falls within FMZ 1.5 and 1.6 (See Map K). The maximum average allowable fire size limit established by the Bruneau Resource Area for FMZ 1.5 and 1.6 is 50 acres. However, this standard cannot be met with Lower Snake River District's current fire management organization especially during multiple fire occurrences.

Small portions of the NCA south of the Snake River lie within FMZ 1.2, 1.7, and 2.2. The maximum average allowable fire size limit for these FMZ is 500 acres.

Fire management objectives for FMZ 1.5 and 1.6 include:

1. Suppress all wildfire on or threatening public lands in an attempt to meet allowable burn standards identified in the FMAP;

2. Take appropriate action on all wildfire according to conditions and in consideration of the least cost plus net resource value change; and

3. Manage for the most effective methods of suppression that are the least damaging to resources and the environment while requiring the least expenditure of public funds.

Additional Needs

Clearly, preserving existing native habitat is preferable to trying to rehabilitate burned sites. However, BLM's ability to protect native habitat from fire is limited by insufficient equipment and staffing levels and the distance fire crews must travel. The need for additional personnel and equipment to effectively deal with fire issues in the NCA cannot be over-emphasized.

The BLM Lower Snake River District Fire Management Specialist recently completed an analysis of equipment and staffing needs in the NCA, compared to the potential reduction in current average fire size and numbers. The analysis, which used average fire size and numbers over the past 12 years, revealed the following:

% Reduction in Acres Burned	Addt'l Equipment	Addt'l Personnel	Addt'l FTE
90%	Dozer & transport (1) Engines (4)	Operator (1) Engine Crews (4)	0.5 5.0
80%	Engines (4)	Engine Crews (4)	5.0
30%	Engines (2)	Engine Crews (2)	2.5

Annual operating costs have been estimated at $175,000, $160,000, and $85,000 for the 90%, 80%, and 30% reduction levels, respectively. In addition, one-time equipment costs have been estimated at $650,000, $350,000, and $180,000 for the 90%, 80%, and 30% levels, respectively. These costs could be reduced significantly by acquiring surplus or excess equipment. The equipment and FTE costs associated with the additional dozer provide a much greater flexibility in multi-fire situations, during which most of the acres are burned in this area.

Because some fires are directly associated with human activity, the loss of big sagebrush and salt desert shrub communities will most likely accelerate as the population in Ada and Elmore County increases. Aggressive public education, prevention, pre-suppression, and suppression programs are necessary to deal effectively with this problem. The current BLM Lower Snake River District fire organization is not adequately funded to handle the current wildfire workload. The conversion of shrub communities to annual grasslands will continue without additional equipment and staff for the district fire suppression organization.

Fire Rehabilitation

Every burned area within the NCA is evaluated for possible rehabilitation. Emphasis is placed on reestablishment of winterfat and big sagebrush shrub communities within golden eagle hunting territories. Management actions are directed at maintaining native, or at least shrub-dominated, plant communities within limits imposed by funding, seed availability, and opportunities for successful rehabilitation.

General fire rehabilitation objectives in the NCA are:

1. Establish perennial species to minimize soil erosion and invasion by annual plant species.

2. Reestablish shrub and herbaceous species to maintain and improve raptor prey habitat.

The selection of plant materials is based on resource objectives, availability, site adaptability, and cost. Native species are used whenever possible. Unfortunately, native grasses available for the harsh sites in the NCA are often limited. Native shrubs are always used in rehabilitation efforts. Species such as Wyoming big sagebrush, winterfat, and fourwing saltbush are becoming more available. Typically, a mixture of native and introduced species is used to increase the probability of a successful rehabilitation project and to minimize invasion by annual plants. Introduced species are used because native grasses and forbs have lower germination rates and poorer seedling vigor than some introduced species. Also seeds of native species are not always available or are too expensive to use on an extensive restoration project.

We currently obtain native shrub materials by contracting with seed collectors to collect the same shrub genotypes from designated areas within the NCA. We also work closely with the National Resources Conservation Service Aberdeen Plant Materials Center and the Provo Shrub lab in developing competitive, drought-tolerant native grass genotypes for seedings, particularly Thurber needlegrass, bottlebrush squirreltail, and basin wildrye. These genotypes will be supplied by local seed growers after they are released.

Burned shrub communities are usually seeded using rangeland drills or broadcast seeders. Most fire rehabilitation seedings have been less than 3,000 acres in size and of irregular shape; thus large monoculture seedings are not apparent. Big sagebrush and winterfat seed can be aerially applied. Reseeded sites are normally protected from livestock grazing for two growing seasons. However, due to marginal growing conditions within the NCA, this period of protection will need to be increased on a case-by-case basis to meet existing plant requirements.

We have conducted limited experiments using prescribed fire and herbicides to reduce weed competition in NCA rehabilitation and restoration projects. Prescribed burning was used in spring 1994 to control cheatgrass competition prior to reseeding the Swan Falls greenstrips. Results suggest that prescribed fire reduces cheatgrass litter, but has little success in reducing cheatgrass competition. Although fire kills substantial seed still on the plant, cheatgrass seed in the soil can remain viable for a number of years. Since cheatgrass fires burn rapidly, heat output is not great enough to kill cheatgrass seeds lying on the soil surface. These remaining seeds are numerous enough to fully occupy the site following burning.

Limited experimental use of Sulfometuron Methyl (Oust) herbicide on greenstrips has proven very successful in suppressing cheatgrass growth and cheatgrass seed production without harming perennial grass species. Oust is of low toxicity to birds and mammals. It was analyzed and is approved for use on BLM lands in the 1991 Vegetative Treatment on BLM Lands EIS. We plan to continue using prescribed fire and herbicides on NCA restoration projects to develop rehabilitation methods more suitable to the NCA.

As new varieties of native and introduced plant species are developed and released, they are tested by the Intermountain Greenstripping and Rehabilitation Research Project in trial plots to determine their compatibility with the soils and climate in the NCA. Shrub varieties suitable for prey cover that are either relatively resistant to carrying a fire or that re-sprout after being burned may be considered in future rehabilitation projects.

Applicable information and recommendations found in the Kuna and Jarbidge Normal Fire Rehabilitation Plans and the Intermountain Greenstripping and Restoration Research Project should be incorporated into an overall conservation/rehabilitation plan for the NCA.

Greenstripping Program

In 1987 greenstripping plans were completed for both the Kuna Planning Unit portion of the BRA and the JRA portions of the NCA. The basic concept behind this program is the replacement of fire-vulnerable vegetation with "greenstrips" of fire resistant vegetation along major roads and other locations to retard fire spread and enhance fire suppression efforts. The greenstrip locations are planned to divide large acreages of annual and shrub-dominated vegetation into smaller units. In this way, the size of burned areas may be reduced, reducing the rate of loss of important shrub communities.

To-date, BLM has attempted to establish about 100 miles of greenstrips throughout the Lower Snake River District. Successful plant establishment on these first attempts has been largely unsuccessful due to prolonged drought. As a result, existing greenstrips are dominated by exotic weeds and annual grasses, and have become a hindrance rather than an aid to fire suppression. Therefore, no new greenstrips should be established unless existing greenstrips are adequately rehabilitated and are shown that they can achieve the original management objectives for fire retardance. It may be possible under controlled conditions to allow livestock to "flash" graze established greenstrips to reduce fuel loads.

The expense of greenstripping can be jeopardized by subsequent uses. Therefore, staffing and dollar investments in rehabilitating old greenstrips should be protected by fencing affected areas to exclude livestock grazing or military activities for whatever period of time is necessary to ensure plant establishment. BLM normally rests rehabilitated sites for two growing seasons. However, due to very marginal growing conditions within the NCA, five or more years may be required to ensure plant establishment.

Management Actions

Fire Suppression

1) Purchase an additional heavy engine and fund an additional engine crew to improve fire response capability within the NCA.

2) Aggressively suppress all wildfires within the NCA with the goal of keeping fires to a maximum average allowable size of 50 acres within Fire Management Zones 1.5 and 1.6, and 500 acres within Fire Management Zones 1.2, 1,7, and 2.2.

3) Suppress all fires within the NCA with the least amount of surface disturbance possible. Whenever burning conditions and terrain are such that direct attack is not feasible, the suppression strategy will be to burn-out

from existing natural barriers and established control points, such as roads or greenstrips.

4) IDARNG shall continue to have primary responsibility for initial attack of all fires occurring within the OTA. Problem fires shall immediately be reported to the BLM Lower Snake River District fire dispatch office, giving location, approximate size, and expected time of control. A map showing the size and locations of all fires will be submitted to BLM at least once per year. BLM may take suppression action when deemed necessary and will notify IDARNG immediately when taking such action. IDARNG will reimburse BLM for all suppression costs incurred for fires resulting from IDARNG activities. A fire coordination plan will be part of the annual operations plan.

5) Use existing roads before constructing new fire lines. Surface disturbance will be limited to the absolute minimum within the NCA. No mechanical surface disturbing equipment will be used on areas containing designated or suspected cultural values, identified paleontologic sites, threatened or endangered species, or sensitive areas.

6) Priorities for suppression within the NCA are:

   a. Fires that threaten life and/or private improvements.

   b. Critical habitats, such as winterfat and sagebrush communities.

   c. Areas containing public improvements.

   d. All other areas.

7) Pursue a cooperative agreement with IDARNG to authorize their providing initial attack of wildfires outside of the OTA when they have available personnel and equipment.

8) Following suppression, GPS the boundaries of all fires to determine acreage for rehabilitation.

9) IDARNG will GPS the boundaries of all fires within the OTA. The digital GIS information will be provided to BLM, using ARC/INFO format.

Rehabilitation

10) In coordination with affected users, develop an overall conservation/rehabilitation plan for the NCA that incorporates specific guidance found in this plan and integrates related existed plans, including the shrub restoration

plan, noxious weed plan, greenstripping plans, and fire activity and rehabilitation plans.

11) Reseed disturbed areas, including burns, unsuccessful fire rehabilitation projects, and old unrehabilitated burns with native species where possible to reestablish shrub and perennial grass components for high quality raptor and/or raptor prey habitat. Treated areas will be prioritized on the basis of site potential and ecological status, with winterfat sites receiving first priority.

    a. Use fire, biological, chemical, and mechanical controls, or a combination of these to reduce or eliminate intense weed competition and improve seedling establishment.

    b. Develop and apply new techniques for reestablishing native vegetation.

    c. Where soil, moisture, or other habitat conditions have changed to the point where native plants cannot be reestablished, or where seeds of native species are not available or are too expensive, plant exotic vegetation that meets the density, structure, diversity, and nutritional needs of the prey species.

12) Unless otherwise directed by the BLM authorized officer, fence reseeded or transplanted sites to exclude livestock grazing and/or military training activities for time periods sufficient to establish seedlings, but for at least two growing seasons.

13) Require IDARNG to sign all fences located within the OTA to ensure visibility during night maneuvers.

14) Following seedling establishment, the BLM authorized officer may make modifications to the management of rehabilitated sites consistent with the purposes for which the NCA was established.

15) Provide at least two growing season's rest for newly burned sites that will not be reseeded because they contain an adequate native grass and shrub component for natural recovery.

16) Where practical, replant unsuccessful greenstrips to protect remaining shrub stands in the NCA. These projects will be fenced or otherwise protected to exclude livestock and/or military training activities until establishment occurs, but for at least two growing seasons following replanting or reseeding.

17) Construct no new greenstrips within the NCA unless they can be shown to be an effective fire retardant and weed barrier.

Livestock Grazing Management

Background

Livestock grazing first began on the Snake River Plain about 1700, when the Shoshoni Indians brought horses into the northern Great Basin (Yensen 1982). With the beginning of the Oregon Trail and subsequent settlement, large numbers of cattle, sheep, and horses grazed the area heavily throughout the year, resulting in significant resource damage. In 1934, passage of the Taylor Grazing Act began an era of federal administration of grazing on public lands. Since then grazing has been authorized through permits tied to private base property.

The 1971 Wild and Free-Roaming Horse and Burro Act required that all wild horses on public lands be inventoried and that historic areas of use be identified as Wild Horse Herd Areas (WHHA). About 2,880 acres of the Black Mountain WHHA lies within the NCA, and includes a portion of the Rabbit Creek/Peters Gulch Allotment. Although this area has been used historically by wild horses as winter range, there have been no recent sightings of horses in the area.

Current Situation

The NCA currently provides livestock grazing for 71 operators. The operators

Livestock graze in the NCA primarily during spring, fall, and winter.

run livestock on 27 separate allotments located entirely or partially in the NCA (Map D). Livestock grazing within specific allotments is managed by the resource area in which the allotments are located (Appendix J).

The Sunnyside Spring/Fall Allotment (S/F Allotment) and Sunnyside Winter Allotment (Winter Allotment) lie between Interstate 84 and the Snake River and comprise about three-quarters of the public land in the NCA. As such, they represent the two top priority allotments in the NCA.

The S/F Allotment contains 178,055 acres of public land. It is used by 14 permittees and has a licensed use of 21,309 animal unit months (AUMs[2]).

The area south of Mountain Home Air Force Base was originally included within the S/F Allotment, but was never fenced. Thus, this area has been used historically in conjunction with the Winter Allotment. Three small allotments also occur within the boundaries of the S/F Allotment. These are: Crater Ring Seeding, Rattlesnake Seeding, and Melba Seeding Allotments.

The seasons of use within the S/F Allotment are as follows:

Spring -	April 1 to June 30
Fall and Winter -	October 16 to January 15

Each spring most operators leave the S/F Allotment by May 31 as range forage becomes available on their Forest Service grazing allotments. The operators reenter the S/F Allotment between October 16 and November 1. Permittees authorized to use both the S/F and Winter Allotments move from the S/F to the Winter Allotment on December 16. Other operators graze livestock in the southeast portion of the S/F Allotment until January 15.

The Winter Allotment contains 192,161 acres of public land. It is used by five grazing permittees and has a licensed use of 14,361 AUMs. Although the period of use differs between operators, the general season of use is from December 16 to February 28.

The IDARNG Orchard Training Area (OTA) comprises approximately 138,000 acres within the S/F and Winter Allotments. Approximately 14,500 AUMs of licensed use within the S/F and Winter Allotments are allocated within the OTA. Of the total acreage within the OTA, over 53,000 acres lie within the OTA Impact Area, of which about 2,560 acres are state-owned. Of the total AUM allocation within the OTA, approximately 5,800 AUMs are allocated within the Impact Area.

[2]AUM: as defined in 43 CFR 4100.0-5, the amount of forage necessary for the sustenance of one cow or its equivalent for a period of one month.

Due to military training schedules and safety considerations, livestock operators that use the OTA have had controlled access to the Impact Area. Increased IDARNG tank and artillery firing within the Impact Area has reduced accessibility of the area to both operators and livestock during the grazing season. Because ranchers have limited access to the interior of the Impact Area to deliver water and tend to livestock, a portion of the forage allocated to livestock within the Impact Area is ungrazed each year. This inability to fully graze licensed forage within the Impact Area has displaced livestock use to areas outside of the Impact Area, and has resulted in over-utilization of forage in the areas of the S/F and Winter Allotments lying adjacent to the OTA. However, licensed grazing use within the S/F and Winter Allotments has never been formally reduced to compensate for the inaccessible forage within the Impact Area.

Permittees (particularly in the S/F Allotment) have suffered from reduced forage accessibility in the Impact Area, fluctuating forage production, lack of permanent water, and loss of perennial plant communities. Smaller operators have adjusted by establishing unofficial individual use areas to avoid being in competition for forage with larger operators and IDARNG. Those who remain in the common use area of the S/F Allotment are the largest operators who cannot be accommodated in small fenced pastures away from the OTA. Conflicting claims to historical use areas between S/F Allotment users are an unresolved problem, which has inhibited division of the S/F Allotment into smaller individual allotments.

Highly variable cheatgrass production on many allotments causes economic hardships to affected ranchers because they are not able to plan ahead for a given level of annual forage production. Grazing regulations (43 CFR 4110.3-3(c)) provide for temporary reductions in livestock grazing due to drought, fire, or other natural causes. During drought, BLM consults with affected grazing permittees, and asks them to apply for reduced use or nonuse based on the current conditions. If the permittee concurs, they apply for and are authorized reduced or nonuse for that season. Most permittees in the NCA cooperated in voluntarily reducing their numbers and in taking nonuse during the last drought. When agreement is not reached, the authorized officer may issue a decision closing the allotment in an emergency to stop resource deterioration.

During the 1987 through 1993 drought, grazing permittees in the S/F Allotment voluntarily decreased their livestock use by about 30 percent. Other allotments within the NCA that have not been rested historically were subjected to closures or other reductions or adjustments during this period. Some operators annually change the locations of water troughs in an attempt to rotate livestock use areas during different years. However, frequent forage shortages preclude resting most areas in a given year. Also without additional rehabilitation, resting cheatgrass-dominated communities does not improve the site for perennial species.

Following wildfire, burned areas are officially closed in the emergency fire rehabilitation plan issued by the authorized officer. When no rehabilitation is planned following wildfire the area can also be closed by decision to allow natural plant recovery.

The portions of the Castle Creek, Bruneau Arm, Fossil Butte, Con Shea, and Sinker Butte Allotments within the NCA consist primarily of salt desert shrub and Wyoming big sagebrush communities. The portions of the Chalk Flat, Hammett #3, Chattin Hill, and Browns Gulch Allotments within the NCA consist of burned areas dominated by cheatgrass interspersed with fire rehabilitation seedings. These allotments are all grazed during the fall and winter months and Chalk Flat receives some spring use as well.

Rattlesnake Seeding, Crater Ring Seeding, and Melba Seeding Allotments are small crested wheatgrass seedings between Interstate 84 and the Snake River. Rattlesnake Seeding Allotment is grazed in the winter and spring. Crater Rings Allotment is usually grazed in the spring whereas Melba Seeding Allotment is rotated annually between spring and fall use.

The portions of the Mountain Home Sub-Unit and Rattlesnake Creek Allotments within the NCA consist of burned areas dominated by cheatgrass interspersed with fire rehabilitation seedings. These allotments are grazed each spring with fall use periods. The Bruneau Hill and West Saylor Creek Allotments also consist of burned areas dominated by cheatgrass interspersed with fire rehabilitation seedings, and are grazed season-long.

The portions of the White Butte, Battle Creek, Pole Creek Individual, Rabbit Springs, Rabbit Creek/Peters Gulch, Silver City, and Flat Iron Allotments within the NCA consist primarily of salt desert shrub and Wyoming big sagebrush communities with few perennial grasses in the understory. Grazing in the Pole Creek Individual Allotment was recently changed from season-long to fall and early winter use. The rest of the allotments are grazed in the spring. Battle Creek and White Butte allotments also have a winter use period and Rabbit Springs and Flat Iron allotments have season-long grazing.

Monitoring Status

Insufficient rangeland monitoring data has been collected for the Sunnyside S/F and Winter Allotments to determine whether current livestock grazing practices are meeting land use plan objectives for the area. Federal grazing regulations (43 CFR 4110.3) require "rangeland studies conducted over time" in order to make these determinations. BLM Manual 4400-1 requires that vegetation monitoring be accomplished using range trend and utilization studies.

Trend studies document changes in ecological status over time. Ecological trend is influenced by natural and human-caused influences, such as climate, fire, insects, rodent populations, and livestock use. Long-term trend data most accurately reflects cumulative natural and human effects, while utilization data documents annual livestock grazing intensity. This information, together with precipitation, actual use data, and existing range condition data, is used to interpret rangeland trend data.

Utilization data can also identify variations in livestock use caused by annual forage level fluctuations. This is particularly important during drought years when production is limited and forage species are stressed. Livestock often spend less time in allotments during drought because utilization levels are reached earlier due to limited forage. Annual use pattern maps reflect livestock distribution problems and possible grazing impacts before long-term trend studies would indicate a downward trend. Once a downward change in range trend occurs, it is often difficult to reverse the process due to the harsh environmental conditions of the NCA. Implementing needed changes based on trend is a lengthy and time-consuming process. Effort is expended reading the trend studies, developing an AI&E recommendation, developing new management objectives, reaching agreements or issuing decisions, and then implementing needed changes over a five year period as required by the grazing regulations.

We are currently mapping grazing use patterns and gathering ecological trend data in the Spring/Fall and Winter Allotments for a future allotment analysis, interpretation, and evaluation (AI&E). The AI&E will allow us to evaluate existing data and determine whether land use plan objectives are being met under current livestock grazing management. If, through the AI&E process, we determine that changes are needed in livestock management, they will be implemented by agreement or decision. Site specific management actions regarding livestock grazing will be developed at that time.

Portions of the Melba Seeding allotment lie within the Snake River Canyon. There are currently no apparent unresolved conflicts between grazing and recreation use within this area. However, recreation use is continuing to increase, and livestock grazing within the canyon will be monitored to identify possible user conflicts.

Animal Damage Control

Currently, animal damage control operations are carried out on public lands under a National Master MOU between BLM and the Animal & Plant Health Inspection Service - Animal Damage Control (ADC) last updated on March 21, 1995. In addition, BLM Lower Snake River District and the Idaho State Office ADC entered into an Annual Animal Damage Control Plan dated November 20, 1993. The overall goal of the plan is to minimize animal depredation damage by

technical/extension services and to direct control efforts towards specific animals within specified areas. Under the annual plan, ADC agreed to increase their technical assistance efforts to solve animal damage problems that are locally recurrent and where improved husbandry/livestock protection practices would help mitigate wildlife/livestock conflicts. Depredation damage within the Lower Snake River District is primarily associated with coyotes.

Various ADC activities within the BLM Lower Snake River District underwent an environmental assessment in 1993, and were determined to not significantly impact raptors or their habitat. In addition, ADC designated the NCA as a special ecosystem area in which the following special control measures were agreed to.

1. Lethal methods, such as M-44s ("coyote getters") and lethal snares, that may affect nontarget species will not be used, even under emergency situations.

2. Trapping can occur only from November 1 - January 31 and only on a corrective basis; ADC will adhere to State of Idaho trapping regulations.

3. From March 1 to July 1 aerial hunting will be restricted to the period from 12 midnight to 9:00 a.m.

4. To avoid conflicts with nesting raptors and the general public, no shooting is allowed within the Snake River Canyon. Within one mile of the Snake River outside the canyon, only calling and shooting (year-round) and aerial hunting (October 1 through February 1) are allowed.

5. ADC will coordinate with the Bruneau Area Manager on all control activities in the NCA in order to avoid conflicts with other uses.

6. No rodent control will be conducted without a specific request from BLM.

7. Except for trapping, ADC is authorized to perform both corrective and preventive control activities.

8. The Idaho State Animal Damage Control Board approves all permits for private aerial hunting. The Lower Snake River District and ADC will coordinate permit consideration involving public lands administered by the Lower Snake River District and will not recommend approval without the concurrence of both parties.

9. Applications for emergency ADC actions within the NCA must be filed with, and approved by, the BLM Area Manager.

10. ADC will file with the BLM Lower Snake River District an annual report describing the control actions taken during the previous year.

11. The BLM Lower Snake River District may, at any time, restrict ADC activities on public lands for multiple-use management or public safety reasons or modify areas where control is permitted.

ADC activities will continue to be monitored, and will be reconsidered if increasing recreational use of the NCA or significant changes in the level of ADC activities result in conflicts that cannot be adequately resolved or mitigated.

Management Actions

Livestock Management

1) Complete an AI&E for the Sunnyside Spring/Fall and Winter Allotments. The AI&E will evaluate existing monitoring data to determine whether existing land use plan objectives are being met. Site-specific management actions will be developed based on the analysis of the monitoring data. If changes in livestock grazing are needed, they will be implemented through agreement or decision.

2) Divide the Sunnyside S/F Allotment into individual allotments where practicable, and group other users into a common use allotment.

3) Continue operating the Sunnyside Winter Allotment as a common allotment grazed in the winter.

4) Following completion of the EIS for military training in the OTA and the AI&E for the Sunnyside Allotments, develop and implement strategies to reduce conflicts between livestock grazing and military training activities.

Monitoring

5) As directed by Section 4(f) of the Act establishing the NCA, institute monitoring efforts to better assess rangeland health and the effects of livestock grazing on native vegetation. The studies should be sufficient in scope to determine whether livestock grazing is compatible with the purposes for which the NCA was established. Methods will include, but not be limited to, use-pattern mapping and range trend studies. Monitoring of specific allotments will be prioritized based on: 1) amount and condition of native vegetation, 2) specific resource concerns, 3) size of the allotment, 4) percentage of the allotment within the NCA, and 5) percentage of public land in the allotment. Data will be used to update grazing capacity estimates of

existing and proposed allotments in the NCA in accordance with current manual guidance.

6) Monitor recreation and livestock use within the Snake River Canyon to identify potential conflicts between recreationists and livestock.

Habitat Rehabilitation

7) In coordination with affected users, develop an overall conservation/rehabilitation plan for the NCA that incorporates specific guidance found in this plan and integrates related existed plans including the shrub restoration plan, noxious weed plan, greenstripping plans, and fire activity and rehabilitation plans.

8) Reseed disturbed areas, including burns, unsuccessful fire rehabilitation projects, and old unrehabilitated burns with native species where possible to reestablish shrub and perennial grass components for high quality raptor and/or raptor prey habitat. Treated areas will be prioritized on the basis of site potential and ecological status, with winterfat sites receiving first priority.

   a. Use fire, biological, chemical, and mechanical controls, or a combination of these to reduce or eliminate intense weed competition and improve seedling establishment.

   b. Develop and apply new techniques for reestablishing native vegetation.

   c. Where soil, moisture, or other habitat conditions have changed to the point where native plants cannot be reestablished, or where seeds of native species are not available or too expensive, plant exotic vegetation that meets the density, structure, diversity, and nutritional needs of the prey species.

9) Unless otherwise directed by the BLM authorized officer, fence reseeded or transplanted sites to exclude livestock grazing and/or military training activities for time periods sufficient to establish seedlings, but for at least two growing seasons.

10) Require IDARNG to sign all fences located within the OTA to ensure visibility during night maneuvers.

11) Following establishment the BLM authorized officer may make modifications to the management of rehabilitated sites consistent with the purposes for which the NCA was established.

12) Provide at least two growing seasons rest from grazing for newly burned sites that will not be reseeded because they contain an adequate native grass and shrub component for natural recovery.

13) Provide opportunities for grazing permittees to "flash graze" greenstrips during early spring to reduce accumulations of fuels.

Animal Damage Control

14) ADC activities will continue to be monitored and will be reconsidered if increasing recreational use of the NCA or significant changes in the level of ADC activities result in conflicts that cannot be adequately resolved or mitigated.

Military Training

Background

The military first began using the Snake River Plain and Canyon during World War II. In 1953 IDARNG developed an agreement with BLM for use of the OTA. The OTA occupies 130,924 acres of public land and 7,508 acres of state land within the boundaries of the NCA.

The OTA is divided into two areas: the Impact Area and the Maneuver Area. The 53,657-acre Impact Area is used as a target zone into which live ammunition and artillery are fired. Trainees conduct tank-mounted artillery firing from sites around the periphery of the Impact Area. The Maneuver Area is the portion of the OTA in which tank and other vehicle maneuvers are conducted and from which artillery is sometimes fired.

In 1979 BLM prepared an EIS that recommended establishment of the NCA. The EIS did not evaluate the effect of military training on raptors within the area, but stated that there were no known effects. BLM subsequently authorized IDARNG's use of the OTA under a Memorandum of Understanding (MOU) (1979). The MOU, last updated in 1985, sets out the authority and responsibilities of the respective agencies.

The Idaho National Guard has conducted military training in the area for over 40 years.

The 1985 BOPA Management Plan provided for annual authorization of the IDARNG operating plan with the stipulation that the level of training activity authorized would not further diminish the area for nesting raptors and that areas disturbed by training activities or fires were to be rehabilitated to BLM satisfaction. Both agencies were to monitor the impacts of training activities on prey productivity and BLM was to monitor raptor use levels.

Prior to 1987 training activities within the OTA occurred wherever IDARNG chose. At that time IDARNG implemented a natural resource conservation program that provided for consideration of potential environmental impacts and establishment of strict range regulations for training activities. Under this program ground disturbing activities required for training are restricted to previously disturbed sites and must be approved in advance by the range officer. However, despite improvements in vehicle management, impacts to vegetation and soils from IDARNG maneuver activities have continued.

In September 1988, IDARNG submitted applications for rights-of-way (R/Ws) to: 1) upgrade the existing Multipurpose Range Complex (MPRC), including the construction of new range target facilities; 2) construct facilities to support the operation of the MPRC including a control tower, loading dock, mess and instruction complex, access roads, and electric and telephone distribution lines; and 3) construct a new Ammunition Supply Point (ASP), which was to be moved to the OTA from its previous location at Gowen Field in Boise.

The upgrading of the MPRC and the construction of the ASP were analyzed in the 1988 OTA Facilities Development Final EIS. However, the R/W applications contained proposals for facilities that were not specifically discussed in the EIS. Thus, in late 1988 BLM completed an additional environmental analysis (EA) of the proposals and found that the proposed actions would not result in a significant environmental impact. BLM then granted the R/Ws subject to applicable regulations and stipulations imposed at the time of granting. The EA contained the following statement:

> "The cumulative environmental impacts caused by IDARNG operations within the OTA are not known at this time. The proposed actions, in and of themselves, however, will cause no additional significant short-term or long-term cumulative adverse impacts to the environment. A proposed four-year research project, jointly sponsored by BLM and IDARNG, will address the overall impacts to the SRBOPA from military training activities."

The R/Ws were granted subject to numerous stipulations, including the following:

> "The subject R/W shall be issued for a period of twenty-five (25) years, and may be renewed. However, the grant will be subject to additional

terms and conditions as may be required by the Authorized Officer in response to new information received through the proposed SRBOPA research study and resulting NEPA review."

IDARNG has since completed construction of the ASP, MPRC, and MPRC support facilities.

Research Studies

Questions left unanswered after the completion of IDARNG's 1988 EIS served as the catalyst for a major cooperative research effort funded jointly by BLM and IDARNG. In 1989 a research plan was implemented to assess the impacts of habitat alteration in the Snake River BOPA. Results from this research will be used to determine what effect military training is having on raptors and their prey and what future adjustments in management may be needed. The research field work was completed in 1994 and final results will be available in 1996. If the research report indicates that current management or use of the OTA is adversely affecting raptors, raptor prey, or their habitat, BLM and IDARNG will initiate changes in use of the OTA to mitigate or terminate such effects.

The research project was initiated to address questions related to the impacts of military training on raptors and their habitat. It was not expected to answer all questions about land use and related environmental impacts throughout the NCA. The following specific questions were developed for the project:

1. What soil and vegetation characteristics are associated with abundance and productivity of Townsend's ground squirrels (TGS) and abundance of black-tailed jackrabbits (BTJR)?

2. What types of food are needed by TGS?

3. Have changes in vegetation resulting from wildfires affected the abundance or productivity of TGS, or abundance of BTJR?

4. What habitats are associated with foraging raptors in the NCA?

5. Do military training activities affect TGS abundance or productivity, or BTJR abundance, on either a short or long-term basis?

6. Have military activities and/or wildfires affected the nesting density, distribution, or productivity of raptors nesting within the NCA?

7. Do military training activities and/or wildfires affect habitat associations, foraging efficiency (i.e., prey delivery rates), and/or home range size of raptors?

8. During what seasons and what times of day might raptors be most susceptible to disturbance from military training activities?

9. Do prey densities and/or the vegetation/soil characteristics favored by prey vary with livestock use?

10. Do conditions achieved through current reseeding practices have the same capability to support populations of principal raptor prey species as vegetation that originally occupied the site or that would naturally recolonize the site?

Information in the research report will be used to analyze the effects of military training activities on raptors and their habitat. The information will also be used to develop a National Guard "natural resource management plan" that will direct future military use of the OTA and will become an integral part of the NCA management plan. The environmental analysis and the "natural resource management plan" will then be used as the basis for renewing or modifying the MOU between BLM and the National Guard, ensuring that future military training activities in the NCA are compatible with the protection and preservation of raptors and their habitat.

Monitoring Activities

In 1987 IDARNG implemented the Environmental Management and Analysis Program (EMAP). Its goal was to analyze existing and potential environmental impacts from ongoing training and operational activities in the OTA. EMAP identified the need for an active monitoring program, troop environmental awareness training, and habitat rehabilitation projects, of which an active fire fighting program is a component. To meet these needs, the Integrated Training Area Management Program (ITAM), a nationwide program developed by the Department of the Army, was implemented to replace EMAP on the OTA. ITAM has four basic components: 1) Land Condition and Trend Analysis (LCTA), 2) Land Rehabilitation and Maintenance (LRAM), 3) troop environmental awareness, and 4) Training Requirements Integration (TRI).

Approximately 300 LCTA plots were established within the OTA and on immediately adjacent public lands. Data collected from annual monitoring of each plot include soil characteristics, vegetative cover, botanical composition, and surface disturbance. These data are being shared with BLM and will be included in the integration of the research project data. Analysis of the data will allow BLM and IDARNG to coordinate military training requirements with the capability of the land within the OTA to withstand training-related impacts.

Since 1988 IDARNG has provided environmental briefings to troops training on the OTA. The briefings explain the significance of the NCA and the importance

of the area to raptors. This training program is continually updated, and includes slide shows, video, handbooks, and posters. According to IDARNG, the goal of this program is to aid trainees in understanding how to minimize training-related environmental impacts within the OTA, and to instill in each soldier the responsibility of environmental stewardship while accomplishing the training mission.

Rehabilitation and Restoration of the OTA

Military training-related and natural fires have caused a significant loss of shrub habitat in the OTA. Although no detailed records were kept, it is estimated that prior to 1988 several thousand acres burned annually within the OTA. To address this problem, IDARNG developed a fire fighting program in 1988 that has greatly reduced annual shrub loss. Since 1988 fires have burned an average of only a few hundred acres each year. Most of the fires are less than one acre in size and occur in previously burned areas. The success of this program led to an agreement between BLM and IDARNG for IDARNG to provide first response fire fighting support for the OTA. On its own initiative, IDARNG also provides needed fire fighting support for adjacent public lands outside of the OTA.

In addition to fires, tank and other vehicle maneuvers have caused significant vegetation and soil disturbance throughout the OTA. IDARNG's rehabilitation program has not kept up with the acreage being burned or disturbed. It may be more advantageous to require IDARNG to perform restoration activities outside of the OTA as off-site habitat mitigation. This would eliminate their continued re-disturbance of reseeded areas.

The Land Rehabilitation and Management (LRAM) component of ITAM involves restoration of native species to areas where they have been lost due to fire. From 1989 through 1991 IDARNG planted approximately 25,000 sagebrush and winterfat seedlings. Because the sites were not adequately protected from subsequent livestock grazing and military training activities, some of the seeded sites have been partially or entirely damaged. Transplant sites that have escaped these impacts are doing well and producing seed. During the winter of 1992-93 IDARNG broadcast approximately 130 snow covered acres with sagebrush and winterfat seed. This method appears to be successful and native shrub and grass seed were subsequently broadcast on an additional 140 acres during the winter of 1993-94. The success of these projects will continue to be monitored. Closer coordination between BLM and IDARNG is required to ensure that sites needing rehabilitation are adequately seeded with appropriate species and then protected from subsequent disturbance during the period of establishment.

Due to the significant monetary investment required for habitat restoration, it is imperative that seeded or planted sites be protected during the establishment period to ensure that the best possible stand is established. Fencing is needed to eliminate livestock grazing and military training activities on rehabilitated sites for whatever period of time is required for a stand to become successfully established. However, fences within the OTA need to be signed in order to be visible by troops involved in night maneuvers.

Road Improvement

The 1990 SRBOPA Shrub Restoration Plan identified tracked vehicle use as being a significant factor in the loss of vegetation and in preventing the establishment of rehabilitation plantings on vehicle routes within the OTA. To reduce these impacts, IDARNG requested authorization to improve some of the main supply routes within the OTA. Following authorization, they began applying cinder-rock to the Range Road, Standifer Road, and portions of Orchard and Pleasant Valley Roads.

In 1993 BLM issued a R/W to IDARNG to improve over 600 miles of existing roads and trails within the OTA. The R/Ws were issued to correct a significant resource degradation caused by the progressive widening of affected roads and trails. Because of repeated vehicle traffic resulting in recurring dusty and/or muddy road conditions, vehicle drivers consistently drive farther out from the original road surface. This results in progressive widening of roads and trails, greatly increases soil disturbance and vegetation loss within the maneuver area, and contributes greatly to the invasion of exotic weeds. BLM granted the road R/Ws because improvement of the roads would allow point-to-point vehicle traffic to be limited to hardened road surfaces. Restricting vehicle movements to designated lanes will allow adjacent degraded areas to revegetate, reducing soil erosion, retarding the invasion of exotic annual grasses and weeds, and allowing degraded habitat to improve. This road improvement project began in 1994 and will continue for the next several years.

An annual meeting is held between BLM, IDARNG and the Sunnyside grazing permittees to discuss the status of the road improvements and to identify the priorities for the next year's improvement project. Priorities are identified to mitigate impacts to, and enhance management of, livestock grazing.

Security Within the OTA

Under the authority of the MOU, IDARNG has responsibility for certain types of security within the OTA. For instance, they may periodically block public access to certain parts of the OTA when training activities could potentially endanger the public. However, IDARNG Military Police have very limited law enforce-

ment authority in the OTA. IDARNG security personnel are trained to deal with military personnel under requirements and procedures of military law. They have no training in civil law and procedures that apply to private citizens. Thus, there is concern that IDARNG personnel conducting security actions within the OTA are not adequately trained to carry out their responsibilities on other than military personnel. Further, there is a potential for increasing conflicts occurring during contacts between Military Police and civilians within the OTA. These civilian contacts will increase dramatically as IDARNG begins improving roads within the OTA and vehicular access is improved for the public. Therefore, all IDARNG security personnel working within the OTA need to be adequately trained to enhance their ability to meet and deal with a variety of public land users in an appropriate and effective manner.

Hazardous Materials Management

The Impact Area will continue to be off limits to the public to ensure safety from unexploded ordinance. IDARNG conducts annual sweeps of the Impact Area to destroy unexploded munitions.

The OTA is included in the IDARNG Spill Prevention, Control, and Countermeasure Plan (SPCCP). This plan prescribes policy and procedures for the prevention and control of spills of oil, fuel, and other hazardous materials due to IDARNG training activities.

In 1993 at the request of Region 10 of the Environmental Protection Agency (EPA) and as part of a district-wide effort to identify areas affected by potentially hazardous materials, the BLM Lower Snake River District Hazardous Materials Specialist conducted a Preliminary Assessment (PA) of the OTA. The OTA is listed on EPA's Facilities Docket list, but because the area is remote and with a lack of target populations, the site was listed for no further action under criteria contained in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Superfund Amendments and Reauthorization Act (SARA).

Information gathered during the PA process revealed that a potential exists in the OTA for the need to take corrective actions under the Resource Conservation and Recovery Act (RCRA) and possibly under CERCLA. Areas of possible concern include: 1) sites where unexploded ordinance, fuels, and other hazardous materials may have been disposed of in the past, 2) the potential for unexploded ordinance to still be on site, and 3) the potential for other regulated heavy metals to have accumulated in soils around gunnery sites.

A site characterization of potentially affected areas in the OTA is needed. If it is warranted, IDARNG should then draft a long-term remediation/corrective action plan for the OTA that meets BLM, Idaho Department of Environmental Quality

(DEQ), and EPA standards. IDARNG should also prepare a site management plan that addresses current practices that are utilized in the OTA for management of hazardous materials under existing State and Federal regulations. In addition, because the OTA is operated under the authority of an MOU (not a federal withdrawal), the MOU should be amended to reflect any new requirements.

Management Actions

General Policy

1) Update the MOU between BLM and the Idaho Military Division to ensure its consistency with the requirements of the Act establishing the NCA and this plan.

2) As directed by Section 4(e) of the Act establishing the NCA, the Secretary of the Interior will determine the compatibility of IDARNG training activities with raptor and prey habitat needs.

3) Evaluate all future proposals for development and/or use of the NCA by IDARNG in the context of: 1) how the proposal(s) will aid in restoring or enhancing existing vegetation and habitat conditions, 2) the extent to which the proposed activity is consistent with the purposes for which the NCA was established, and 3) how any impacts to raptor or raptor prey populations or habitats will be mitigated.

Habitat Rehabilitation

4) IDARNG shall rehabilitate areas disturbed by military training activities. At the discretion of the BLM authorized officer, reseeded or transplanted sites will be fenced to exclude livestock and/or military training activities for time periods sufficient to establish seedlings, but for at least two growing seasons. Fences located within the OTA shall be signed by IDARNG to ensure visibility during night maneuvers. Following establishment, the BLM authorized officer may make modifications to the management of the rehabilitated site consistent with the purposes for which the NCA was established.

5) With the consent of the BLM authorized officer, IDARNG may conduct rehabilitation and restoration activities outside the boundary of the OTA in lieu of and as mitigation for vegetation and soil disturbance inside the OTA. Sites needing rehabilitation will be identified by BLM, and restoration methods will be reviewed and approved by BLM.

6) IDARNG and BLM will share information regarding past and future rehabilitation projects. Information provided will include project maps, ecological site data for each project, seeding date for each project, species seeded, rates and methods of application, and the results of monitoring data showing the degree of success of each project. Future IDARNG seeding proposals will require prior BLM approval.

7) IDARNG will annually coordinate their resource monitoring programs with those of BLM to evaluate long-term vegetation and soil impacts of IDARNG activities. Monitoring methodologies utilized by IDARNG for BLM purposes will be consistent with BLM's NCA monitoring program and data will be available to BLM for analysis of ecological trends.

8) IDARNG will continue to repair or replace range improvements, such as fences, water tanks, cattleguards, and corrals that are damaged or destroyed by military training activities.

Roads

9) BLM will meet annually with IDARNG and affected livestock operators to jointly develop the next season's road maintenance and improvement plan for the OTA.

10) As roads within the OTA are improved, IDARNG will restrict tanks and other heavy vehicles to the improved roads during all administrative movements, such as point to point travel within the OTA Maneuver Area.

Fire Suppression

11) IDARNG shall continue to have primary responsibility for initial attack of all fires occurring within the OTA. Problem fires shall be reported immediately to the BLM Lower Snake River District fire dispatch office, giving location, approximate size, and expected time of control. A map showing the size and location of all fires within the OTA will be submitted to BLM at least once per year. BLM may take suppression action when deemed necessary and will notify IDARNG immediately when taking such action. IDARNG will reimburse BLM for all suppression costs incurred for fires resulting from IDARNG activities. A fire coordination plan will be part of the annual operations plan.

12) Pursue a cooperative agreement with IDARNG to authorize their continued first responder capability outside of the OTA when personnel and equipment are available.

13) IDARNG will GPS the boundaries of all fires within the OTA. The digital GIS information will be provided to BLM, using ARC/INFO format.

Hazardous Materials

14) Within one year from the effective date of this management plan, IDARNG shall submit a draft site characterization plan for the OTA. The site characterization plan shall: 1) discuss the methods utilized and areas to be characterized (all areas potentially affected by past practices); 2) include a report outlining the current hazardous materials management practices employed at the OTA and how they do or do not meet State and Federal regulations; and 3) include documentation that affected state and federal regulations have been adhered to.

15) Amend the existing MOU between BLM and the Idaho Military Division to include a statement by IDARNG accepting liability for any past, present, and future spills, releases, or accumulations of hazardous materials associated with IDARNG activities within the OTA. This statement shall include appropriate language acceptable to the Assistant Field Solicitor for the Department of the Interior.

Research

16) The Raptor Research and Technical Assistance Center will assist the BLM in administering a central data system containing results of all research, studies, and monitoring conducted in the NCA. Individuals and agencies conducting monitoring studies and/or research in the NCA will be required to provide copies of data and data descriptions to the BLM on computer disk. Researchers will also be required to provide copies of reports and publications produced from work done in the NCA.

Security

17) IDARNG will continue to maintain warning, safety, and closure signs around the perimeter of the Impact Area at no greater than 1/4-mile intervals, and shall control trespass within the Impact Area.

18) IDARNG will implement the following actions to improve the ability of military security forces to interact with public land users within the OTA:

a. All security supervisors will successfully complete Police Officers Standardization Training (POST).

b. Other security personnel will successfully complete, at least, POST Level I training.

c. All security personnel will successfully complete training to improve skills related to interpersonal contact and communication.

d. IDARNG shall issue radio equipment to all security personnel to provide instant communication with BLM, County Sheriff, and State Police dispatchers through either a Valley All Call, or the Ada County Sheriff's frequency. This includes acquisition of authorization from cooperating agencies to use their respective frequencies.

e. IDARNG shall file a report with BLM describing all accidents, law enforcement actions, and/or incidents with civilians within 24 hours of the accident/incident. The report will detail the type of contact, MP name, type of action taken, date/time/location of contact, name of person(s)/vehicle license number. With prior BLM approval, reports may be filed on a Military Police form, or BLM may develop a form for this purpose.

f. Road or area closures (except in emergency situations) will be initiated by IDARNG only after coordination with, and approval by, the BLM authorized officer. Emergency closures will be reported to the BLM authorized officer within 24 hours.

g. IDARNG will provide BLM with the current operating instructions for the security force.

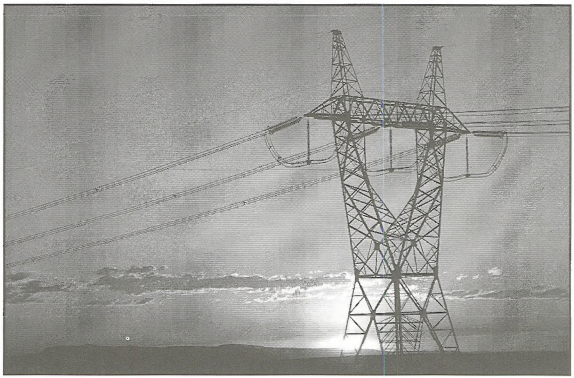
h. IDARNG will designate a liaison officer who will coordinate all security issues with BLM, and who will be responsible for reporting all incidents and law enforcement actions to BLM.

Lands and Realty Management

Background

Over the past several years BLM has received an increasing number of requests for short- and long-term uses of public lands within the NCA. This includes applications for rights-of-way, permits, leases, and easements. These range from small, non-permanent uses like temporary placement of beehives on public land to more long-term authorizations such as pipelines, power lines, and road systems. Each of these applications requires a site-specific evaluation and an analysis under the requirements of NEPA. Following issuance of authorizations, field examinations are performed to ensure compliance with grant stipulations and other legal and regulatory requirements.

In addition to the above applications, an ongoing workload is generated by the need to investigate and resolve unauthorized use cases and to evaluate potential land tenure adjustment proposals.



Pacific Power and Light Inc. constructed a transmission line across the NCA in 1981. It carries electricity from coal-fired power plants in Wyoming to the Pacific Northwest.

Authorizations

Subject to valid existing rights, Section 3(d) of the Act establishing the NCA withdrew public lands within the NCA from all forms of entry, appropriation, or disposal under the public land laws in general, and from entry, application, and selection under the following specific laws:

Desert Land Act (43 U.S.C. 321 et seq.) as amended
Carey Act (28 Stat. 422) as amended
State of Idaho Admissions Act (26 Stat. 215)
Section 2275 of the Revised Statutes (43 U.S.C. 851)
Section 2276 of the Revised Statutes (43 U.S.C. 852)

Applications filed under any of the above statutes will not be accepted.

All applications received for proposed land uses within the NCA other than those filed under the above statutes will continue to be processed. Pursuant to Section 4 of the Act establishing the NCA, land use applications will be evaluated and decisions will be issued, subject to a determination of whether the proposed action is consistent with the purposes for which the NCA was established. Applications found to be inconsistent with the purposes of the NCA will either be rejected in their entirety or will be held in abeyance pending resolution of potential conflicts. Applications that are found to be consistent with the purposes of the NCA and are compatible with other existing uses of the affected area will be authorized subject to existing legal and regulatory requirements and site-specific stipulations.

Trespass

Documenting and terminating unauthorized use (trespass) cases is a normal process of the lands and realty program. Approximately 125 cases have been resolved within the Bruneau Resource Area over the past 5 years. However, there is currently a backlog of over 30 cases within the NCA including occupancy, utility lines, irrigation facilities, and agricultural uses. Many of these cases were established several years ago and have not been processed because of insufficient staff and funding.

Land Tenure Adjustment

Section 5 of the Act establishing the NCA authorized acquisition of lands lying within the boundary of the NCA through donation, purchase, exchange, or transfer from another federal agency, except that lands owned by the State of Idaho may be acquired only through donation or exchange. The Act specifies that funds required for direct purchase of lands within the NCA may be appropriated

either under the authority of FLPMA or the Land and Water Conservation Fund Act of 1964.

Section 5 also provides that within 4 years from the enactment of the Act, BLM will study, identify, and initiate voluntary land exchanges to resolve ownership related land use conflicts within the NCA.

BLM Lower Snake River District's policy is to use land exchanges, where possible, to dispose of public lands and acquire private lands. In this way, specific federal appropriations normally needed for land purchases are not required. Land exchanges also provide BLM with a mechanism to use lower valued public lands to acquire private lands containing more important or critical resource values than those being disposed of. This policy should be continued. In addition, public lands within the NCA should be disposed of only where the disposition will either benefit or have no adverse effect on raptors or their prey.

Management Actions

1) Applications filed under the following statutes will not be accepted, and applications pending as of the date of enactment of the Act establishing the NCA will be returned to the applicant.

   Desert Land Act (43 U.S.C. 321 et seq.) as amended
   Carey Act (28 Stat. 422) as amended
   State of Idaho Admissions Act (26 Stat. 215)
   Section 2275 of the Revised Statutes (43 U.S.C. 851)
   Section 2276 of the Revised Statutes (43 U.S.C. 852)

2) Evaluate all land use applications to ensure that the proposed action is consistent with the purposes for which the NCA was established. Applications that are found to be inconsistent with the purposes of the NCA will be rejected. Applications that are found to be consistent with the purposes of the NCA, and following NEPA analysis, are found to be compatible with other existing uses of the affected area, will be authorized subject to existing legal and regulatory requirements and site specific stipulations.

3) Existing authorizations will be reviewed at the end of their effective period to determine whether their renewal or reauthorization is consistent with the purposes of the NCA. If they are determined to be consistent, they may be either renewed or reauthorized to accommodate NCA management concerns. Authorizations being renewed or reauthorized will be subject to appropriate stipulations to protect raptors, raptor prey, and their habitat.

4) Land disposal such as exchanges, sales, or Recreation and Public Purposes Act disposals may be conducted when such actions will either benefit or have no adverse effect on raptors, raptor prey, or their habitat. Land exchanges will be the preferred method of disposal.

5) Support, through purchase or exchange, the acquisition of private and state-owned lands within the NCA to further the purposes for which the NCA was established and to resolve ownership-related land use conflicts. Land exchanges will be the preferred method of acquisition.

6) Resolve existing trespass cases within the NCA in a manner consistent with the purposes for which the NCA was established.

7) Include the following stipulation in all rights-of-way granted by BLM for electric power lines within the NCA:

> Unless otherwise agreed in writing by the authorized officer, powerlines shall be constructed in accordance with standards outlined in "Suggested Practices for Raptor Protection on Power Lines" (Olendorff et al. 1981 and subsequent revisions). The holder shall assume the burden and expense of proving that pole designs not shown in the above publication are "eagle safe." Such proof shall be provided by a raptor expert approved by the authorized officer. The BLM reserves the right to require modifications or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

8) Coordinate with affected power companies to have specific power pole(s) retrofitted or replaced with ones having a raptor proof design, where the pole(s) are determined to be a safety hazard for perching raptors.

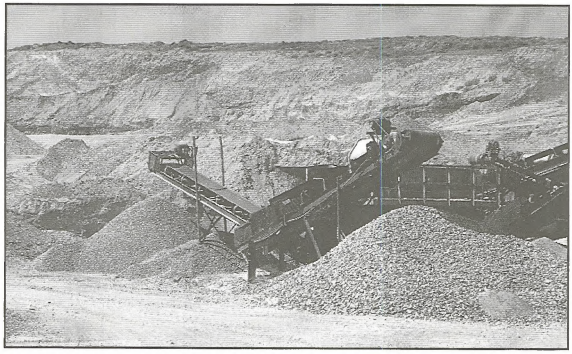
Mineral Exploration and Development

Background

The Act establishing the NCA withdrew the entire area from further mineral activity. Therefore, other than those mineral use authorizations existing prior to establishment of the NCA, locatable and leasable minerals may not be disposed of and new mineral material sites may not be opened. However, the Act allows the continued disposal of salable minerals from existing mineral material sites as long as the use of the material site is consistent with the purposes for which the NCA was established. Salable minerals include sand, gravel, cinders, clay, borrow, and other construction-related minerals (See Map E). Appendix K lists currently authorized mineral material sites within the NCA.

No mineral leases are currently in effect within the NCA.

A conflict currently exists in Section 11, T. 6 S., R. 4 E., between Joe Lynde's Cove #1 mining claim for clay and the Little Valley Community Clay Pit. Lynde's claim was filed in 1983 and the community pit was established in 1990.



Twenty six mineral material sites, such as the above gravel pit, are currently authorized within the NCA.

The mining claim constitutes a prior right and, as such, the community pit cannot be operated unless and until the Lynde claim is cleared.

Management Actions

1) No new mineral material sites will be opened within the NCA. Future mineral material use authorizations for existing sites shall include whatever restrictions or stipulations the authorized officer deems necessary to protect the resources and values for which the NCA was established.

2) No mineral material use authorizations will be issued for the Little Valley Community Pit until the Lynde Cove #1 mining claim is cleared.

Recreation Management

Background

Southwest Idaho is the state's most populous region. The four counties in which the NCA is located (Ada, Canyon, Elmore, and Owyhee) have grown, in aggregate, an estimated 60 percent in population since 1974 to about 380,000 people. The greatest population increase has been in the greater Boise metropolitan area with a current population of almost 348,000. Ada County, with a population of over 243,000, has increased 80 percent since 1974 and accounts for 64 percent of the population in the four counties (U.S. Dept. Comm., 1995). Population in the four counties is expected to increase to well over 500,000 by 2015 (Idaho Power Co., 1994). The Idaho State Comprehensive Outdoor Recreation Plan (1983) estimates that by the year 2000 recreation activity occurrences in southwest Idaho will have increased to almost 44 million from their 1980 level of 25 million. This represents a projected increase of approximately 72 percent.

Recreation use in the western portion of the NCA has risen from an estimated 22,500 user days in 1986 to an estimated current annual level of approximately 38,500 user days. These estimates are derived from incomplete data but are believed to significantly under-represent the actual use levels within the NCA.

Thousands of people visit Dedication Point each year to observe nesting and migrating raptors.

The legislation establishing the NCA directs BLM to provide public educational and interpretive opportunities about the NCA's wildlife and resource values. Recreational activities that either adversely impact wildlife or other resource values or conflict with recreational/interpretive activities are either not emphasized or are provided for in areas of the NCA more appropriate for those activities.

Recreation Trends

Much of the visitor use in the NCA is land-based, including sightseeing (nature study and archaeological site viewing), motorized vehicle use (cars, trucks, jeeps, motorcycles, ATVs), horseback riding, hiking, hunting, recreational shooting, mountain biking, picnicking, and camping. From March through June, sightseeing and nature study associated with nesting and foraging raptors attract local, national, and international visitors. This is also the peak use period for ground squirrel "plinkers," target shooters, hikers, mountain bikers, and river floaters. During the frequent hot summer days water-based recreation, including floating, canoeing, power boating, and fishing are popular along the 82 river miles of the NCA and on C.J. Strike Reservoir, a 7,500-acre impoundment of the Snake and Bruneau Rivers in the southeastern portion of the NCA.

The sheltered canyon areas of the NCA offer spring and fall weather conditions that average 5-10 degrees warmer than temperatures in nearby Boise. Because of this the NCA is increasingly popular with the public because it provides opportunities for outdoor recreation in the late winter, spring, and fall when many higher elevation recreation areas are unpopular or inaccessible due to weather.

In 1991 Canyon County established Celebration Park, a 200-acre recreational/interpretive site in the Snake River Canyon on the western boundary of the NCA. The park contains a boat launch and docks and a visitor center that serves as an environmental education center, with an emphasis on the study and appreciation of archaeology and Native American culture. As part of the Celebration Park development, the historic Guffey Bridge was restored for foot and equestrian use, thus causing an increase in recreation use on the south side of the river around Guffey Butte. In 1994 Celebration Park attracted approximately 75,000 visitors (Tom Bicek, Canyon County Parks Dept., pers. comm.).

Recreational paintball competition has recently appeared in the NCA, where teams play mock war games. The objective of these games is to disqualify opponents by marking them with compressed air-propelled paint balls. Most of the paint balls being used are water soluble. However, because of the extremely low annual precipitation in the canyon, brilliant splotches of color from paintballs may stain rocks and cultural sites, such as petroglyphs, for months at a time. Additionally, the paint used in some paintballs can permanently stain and/or

degrade certain materials. In the heavily-visited areas of the canyon, the intrusion from the games themselves and marks on the landscape resulting from paintball impacts, are likely to conflict with other less intrusive recreational activities.

In the heavily-used western end of the Snake River Canyon north of the river, a single permittee is licensed for 215 AUMs of livestock grazing use every other year from April 1 through June 30. To-date, there have been no reports of conflicts between recreationists and cattle. However, with steadily rising recreational use levels anticipated for the NCA future conflicts could develop in this area. If such conflicts are identified, the compatibility of recreation and grazing in this small and intensively-used area will be reexamined to determine if changes in grazing management are necessary.

Recreation Use Requiring Permits

Federal regulations (43 CFR 8372.1) require special recreation permits for: 1) commercial operations, 2) competitive events, such as motorcycle or bicycle races, or equestrian endurance events, and 3) non-competitive, non-commercial events involving more than 50 participants or vehicles. All categories of Special Recreation Use Permits are subject to environmental review prior to issuance. If approved, permits are subject to a variety of special stipulations including special fees, vehicle use restrictions, group size limitations, seasonal restrictions, avoidance of sensitive wildlife habitat or archaeological sites, etc. The purpose for requiring permits for these activities is to satisfy recreational demands within allowable use levels in an equitable, safe, and enjoyable manner, while minimizing adverse resource impacts and user conflicts.

The BLM Lower Snake River District encourages operations of commercial outfitters in the NCA, but regulates the number of outfitters and the nature of their use to protect important resources of the area. Four outfitters currently operate in the NCA. One conducts float trips on the Snake River and land-based nature study trips; two are float trip operators; and one provides horseback rides in several areas of the NCA. All four outfitters are licensed by the Idaho Outfitters and Guides Board, a State of Idaho agency.

Commercial river use in the NCA is regulated by BLM and the Idaho Outfitters and Guides Board. The 1985 Snake River Birds of Prey Management Plan included a management action to complete a carrying capacity study for boating along the Snake River between Grand View and Walter's Ferry. The study was to determine acceptable use levels on the river so that allocation of river use is considered before user conflicts arise. Both commercial and non-commercial river use were to be monitored and adjusted as necessary to protect the resource base and maintain adequate non-commercial recreational opportunities. Pending the completion of the study, limits on commercial boating permits were set at five outfitters. Party size was also limited to 30 people.

The carrying capacity study was never completed, and demand for commercial outfitter permits has never been and is not currently restricted by the five outfitter limit. Only three outfitters currently have permits to use this portion of the Snake River. Therefore, while demands for commercial outfitter permits remain static, we will focus our management priorities on more pressing problems.

The Outfitters and Guides Board consults with BLM before allocating any license vacancy affecting BLM lands. If BLM were to deny a permit to an applicant on any grounds (e.g. environmental, financial, or safety), the Board would refuse to issue the applicant a license to operate in that area.

Special Management Designations

Special Recreation Management Areas

The western end of the Snake River Canyon within the NCA is managed as the Snake River Birds of Prey Special Recreation Management Area (SRMA). The boundaries of this SRMA correspond to the former 26,000-acre Snake River Birds of Prey Natural Area. The SRMA provides a variety of river and land-based recreational opportunities in settings classified as either roaded natural, semi-primitive motorized, or non-motorized.

Off-Highway Motor Vehicle Areas

Most public lands within the NCA are "open" to off-highway motor vehicle (OHMV) use. The original Natural Area was closed to all forms of motorized vehicle use off of designated roads. The closure, which was published in the Federal Register on January 30, 1974, directed that major roads within the Natural Area would be open for motorized vehicle use and minor roads and trails would be closed.

BLM staff specialists have noted an increasing network of trails developing throughout the NCA, even within the original Natural Area. This uncontrolled OHMV activity damages existing habitats, can directly and indirectly disturb raptors and other wildlife within the area, and can conflict with other public land users. Many of these trails are duplicative or parallel and lead to the same point. Therefore, access would not be impacted by limiting vehicle use to only one of several roads or trails leading to the same location. Closing minor roads and trails to motorized vehicles and eliminating cross-country OHMV travel within the NCA is consistent with the purposes for which the NCA was established.

Presently, both the Owyhee Front SRMA and the Fossil Creek OHMV Management Unit carry an OHMV Limited - Level 1 designation. This designation limits all vehicle use to existing roads, jeep trails, motorcycle trails, and sand washes, except as otherwise posted. Motorcycle hillclimbing within portions of the area is damaging sites that support sensitive plants. As such, affected sites

may be closed to OHMV activity on an emergency basis to protect existing sensitive plant populations.

The Owyhee Front SRMA is located within the portion of the NCA lying north of Oreana and west of Highway 78. The SRMA is intensively-managed by the Owyhee Resource Area. The Rabbit Creek OHMV trailhead is situated along Highway 78 just west of Murphy. A second OHMV trailhead on Highway 78 (Fossil Creek) supports use of the lower Fossil Creek drainage in the NCA. Lower Fossil Creek, though not a part of the Owyhee Front SRMA, is managed for intensive OHMV use as the Fossil Creek OHMV Management Unit.

The Snake River Birds of Prey SRMA restricts OHMV activity to designated roads and trails (OHMV Limited - Level 6). However, the designated system has yet to be established on-the-ground.

BLM's 1985 Snake River Birds of Prey Area Management Plan recognized that increasing recreational use was having negative effects on significant vegetation, wildlife, and cultural values in the area. A variety of management actions were proposed to correct problems. Some of these management actions were implemented, but many remain uncompleted because of funding and staffing limitations. The extensive road closures recommended in the 1985 management plan are a good example.

Many of the management actions contained in the 1985 management plan are being carried forward in this plan. Some have been refined, and new management actions have been added to reflect the increasing recreation use and management needs of the NCA.

New Management Proposals

Most of the management actions proposed within this plan were carried forward from the 1985 management plan. Therefore, they require no further analysis. However, new proposals for managing recreational shooting and access, presented below, have not been discussed in any previous EA, EIS, or management plan. Therefore, they are evaluated in this chapter and the environmental analysis is tiered to the 1979 Snake River Birds of Prey EIS.

The shooting and access management alternatives range from retaining current management to eliminating most vehicle travel and all shooting. The proposals were evaluated in the context of the NCA legislation, which directs BLM to allow continued "compatible uses" of the NCA while providing for:

> "...the conservation, protection and enhancement of raptor populations and habitats and the natural and environmental resources and values

associated therewith, and of the scientific, cultural, and educational resources and values of the public lands in the conservation area."

The "No Action" alternative is listed first to inform the reader what the current management situation is for the NCA. Under the "No Action" alternative, existing management would be retained and no new actions would be taken.

Recreational Shooting

Shooting is a popular recreational activity that has become a serious safety problem in many areas of the NCA. The NCA has long been popular with recreational shooters as a place to target-shoot and sight-in rifles. Much of this shooting is directed at ground squirrels and other non-game animals. In former years when recreational use of the area was light, these activities could be conducted safely with little danger of accidental shooting. However, recreation use has increased so dramatically in recent years that reports of "close calls" and dangerous encounters between shooters and other users of the NCA are now common, especially when ground squirrels are active above ground. This safety problem is particularly significant in the western portion of the NCA closest to the expanding population centers of Boise, Kuna, and Melba.

Environmental Analysis of Shooting Management Alternatives

Except for "No Action," all of the following alternatives entail revoking the existing shooting closure within the former Snake River Birds of Prey Natural Area and establishing new shooting management areas. Proposed shooting restrictions do not apply to the approved administrative use of firearms for purposes such as research, wildlife management, law enforcement, animal damage control, and military training.

Alternative No. 1 (No Action):

The existing shooting closure would remain in effect and no additional closures or restrictions would be implemented. Currently, public lands within the former Snake River Birds of Prey Natural Area are closed annually to the discharge of all firearms from March 1 to August 31. Public lands within the artillery impact area of the National Guard Orchard Training Area are closed year-round to both public access and shooting.

Associated Impacts:

1. Hunting seasons would not be affected.

2. Shooting would not affect nesting and foraging raptors during the peak raptor season within the former Natural Area boundary.

3. Shooting of all firearms would continue to be allowed within the former Natural Area from September 1 through the end of February. Therefore, big game, upland game bird, and waterfowl hunting would not be affected.

4. Shooting of all firearms would continue year-round outside of the former Natural Area, and could adversely impact nesting and foraging raptors outside of the canyon during the peak raptor season. This does not meet the legislative mandate to provide for the protection and enhancement of raptor and raptor prey habitats.

5. Significant public safety concerns associated with unregulated shooting within the canyon and the western portion of the NCA would not be mitigated.

Alternative No. 2 (Proposed Action):

Close public land downstream from Grandview within 1/2 mile of the Snake River to rifles and pistols year-round, and close the same area to all firearms from February 15 through August 31; and

Close public land within the portion of the NCA located north of the Snake River (more than 1/2 mile from the Snake River), north of Highway 67 (Grandview Highway), and west of Simco Road to rifles and pistols from February 15 through June 30, annually. This area would be open to hunting and shooting during the rest of the year subject to State law.

Associated Impacts:

1. Would meet the legislative mandate to provide for the protection and enhancement of raptor and raptor prey habitats, while allowing compatible uses to continue.

2. Would mitigate significant public safety concerns associated with unregulated shooting within the canyon and the western portion of the NCA.

3. Would allow shooting with muzzleloaders and shotguns to continue during the hunting season within the proposed 1/2 mile zone from the Snake River and year-round in all other areas of the NCA. Therefore, upland game bird and waterfowl hunting would not be affected. Big game hunting would not be affected in Management Units 38 and 45.

4. Would not allow hunting with rifles and pistols within the canyon. This would adversely affect big game (mule deer) hunting in Management Unit 40. Deer hunting with shotguns and muzzleloaders could continue.

5. Would allow continued hunting with all firearms during established game seasons in those areas more than 1/2 mile from the Snake River.

6. Shooting would not adversely impact nesting and foraging raptors during the peak raptor season either in or outside of the canyon.

7. Would not allow hunters to take cottontails within the NCA during the last two weeks of February.

8. Currently, most shooting occurs along major access road corridors in the western portion of the NCA. This alternative would result in shooters being displaced to other areas, increasing shooting and associated impacts (littering, etc.) to new areas.

9. Would increase soil and vegetation disturbance associated with off-road vehicle use resulting from users searching for and using new shooting locations.

10. It would be difficult, expensive, and time-consuming to administer a shooting restriction within such a large area.

Alternative No. 3:

Close all public lands within the NCA to shooting year-round.

Associated Impacts

1. Would mitigate significant public safety concerns associated with unregulated shooting within the canyon and the western portion of the NCA.

2. Raptors would not be affected by shooting activities.

3. Would not meet the legislative mandate to provide for the protection and enhancement of raptor and raptor prey habitats, while allowing compatible uses to continue.

4. Would not allow hunting within the NCA.

5. Would not allow shooting even in those portions of the NCA where shooting conflicts are not evident.

6. Would displace shooting to public and private lands in surrounding areas, possibly creating conflicts in other areas.

Alternative No. 4:

Close all public lands within the NCA to shooting during the February 15 to June 30 period.

Continue the year-round public shooting closure within the artillery impact area of the National Guard Orchard Training Area. This closure does not affect military training activities.

Associated Impacts:

1. Would mitigate significant public safety concerns associated with unregulated shooting outside of the canyon in the western portion of the NCA.

2. Would protect raptors from direct or indirect shooting impacts during most of the nesting season.

3. Would not mitigate public safety concerns associated with rifle and pistol shooting in the canyon between July 1 and February 14.

4. Would close public lands to shooting even in portions of the NCA where shooting conflicts are not evident.

5. Would not allow hunting of upland game (cottontails) within the NCA during the last two weeks of February.

Alternative No. 5:

Allow shooting on public lands within the NCA only during established hunting seasons.

Continue the year-round public shooting closure within the artillery impact area of the National Guard Orchard Training Area. This closure does not affect military training activities.

Associated Impacts:

1. Would mitigate most public safety concerns associated with unregulated ground squirrel and target shooting outside of the Snake River Canyon.

2. Would allow continued hunting during established seasons.

3. Would allow recreational shooting during the spring black bear hunting season, and would subject raptors to shooting-related impacts during this peak raptor season even though black bears do not inhabit the NCA.

4. Would not meet the legislative mandate to provide for the protection and enhancement of raptor and raptor prey habitats while allowing compatible uses to continue.

5. Would allow recreational shooting during the spring black bear hunting season, which occurs during the current peak recreational shooting period in the NCA. Thus, public safety concerns outside of the 1/2 mile zone from the Snake River would not be totally mitigated.

6. Would increase public safety concerns associated with shooting within the canyon.

7. Would close public lands to shooting even within portions of the NCA where shooting conflicts are not evident.

8. Would not allow hunters to shoot animals within the NCA outside of big game, upland game bird, or waterfowl seasons.

Alternative No. 6:

Close public land within 1/2 mile of the Snake River to rifles and pistols year-round and close the same area to all firearms from February 15 to August 31; and

Close public land to rifles and pistols within 1/2 mile of the following roads from February 15 to August 31:

Swan Falls Road
Victory Lane
McDermott Road
Black Cat Road
Poen Road
Cloverdale Road
Pleasant Valley Road
Orchard Training Area Range Road
Bennett Road
Simco Road
Highway 67 (Grandview Highway)

Continue the year-round public shooting closure within the artillery impact area of the National Guard Orchard Training Area. This closure does not affect military training activities.

Associated Impacts:

1. Would mitigate public safety concerns associated with unregulated shooting within the canyon.

2. Would protect raptors from direct and indirect impacts from shooting within the canyon.

3. Would allow continued hunting during established game seasons and year-round recreational shooting in those areas more than 1/2 mile from the Snake River, and more than 1/2 mile from the above roads.

4. Would allow continued shooting with muzzleloaders and shotguns during the hunting season within the canyon, and year-round in all other areas of the NCA.

5. Would not meet the legislative mandate to provide for the protection and enhancement of raptor and raptor prey habitats, while allowing compatible uses to continue.

6. Public safety concerns outside of the 1/2-mile zone from the Snake River would not be mitigated. Currently, most shooting occurs along the above road corridors. This alternative would result in this use being displaced to other areas, which would increase shooting and associated impacts (littering, etc.) and increased conflicts with other users in adjacent areas.

7. Would increase soil and vegetation disturbances associated with off-road vehicle use resulting from users searching for and using new shooting locations.

8. Would be difficult to implement and enforce the closures along the proposed road corridors.

Alternative No. 7:

Close public lands year-round to the discharge of rifles and pistols within the Snake River Canyon from Gold Island (near Grandview) downstream to Celebration Park except during the deer hunting season in Hunting Unit 40. Shotguns and muzzleloaders would be allowed in this area only from September 1 to February 14. The width of the closed area would be 1/2 mile from the river or 100 yards back from the canyon rim, whichever is greater.

Close public lands year-round to the discharge of rifles and pistols in the portion of the NCA located north of Pacific Power & Light Company's 500-kV electric transmission line and west of Swan Falls Road. Within this area organized

groups may apply to develop, operate, and maintain a target shooting range(s). Groups wishing to apply for this privilege will be required to show that they are able to adequately develop, operate, and maintain the site to avoid adverse impacts to other users in the area.

Continue the year-round public shooting closure within the artillery impact area of the National Guard Orchard Training Area. This closure does not affect military training activities.

Associated Impacts:

1. Closed areas would be more easily recognizable on the ground.

2. Would mitigate significant public safety concerns associated with unregulated shooting within the canyon.

3. Would mitigate significant safety concerns expressed by land owners living near the periphery of the western portion of the NCA.

4. Would protect raptors from direct and indirect impacts from shooting within the canyon.

5. Would allow continued hunting during established seasons.

6. Would allow continued year-round recreational shooting in most of the NCA.

7. Would allow organized groups to meet growing demands for safe recreational shooting areas by providing them an opportunity to develop target shooting ranges in areas compatible with this use.

8. Meets the legislative mandate to provide for the protection and enhancement of raptor and raptor prey habitats, while allowing compatible uses to continue.

9. Would displace some shooters to other areas potentially increasing shooting and associated impacts and user conflicts in adjacent areas.

10. Could increase soil and vegetation disturbances associated with off-road vehicle use resulting from users searching for and using new shooting locations.

11. The shooting closure would be relatively easy to sign and administer compared with the other alternatives.

Recommendation / Rationale for Selecting the Preferred Alternative

The recommendation is to select Alternative No. 7 as the preferred alternative for the following reasons (Map G):

1. It meets all of the legislative mandates.

2. It provides the greatest number of benefits to raptors and raptor prey while minimizing negative impacts to resources and recreational users.

3. It mitigates significant public safety hazards, while allowing compatible uses of the NCA to continue.

4. It does not impact established hunting seasons.

5. Costs associated with administering the closures would be much less than other alternatives.

Access Management

Recreation use is heaviest in the Snake River Canyon between Swan Falls Dam and Guffey Bridge. Ease of vehicle access to this portion of the canyon has resulted in multiple, braided routes that have destroyed vegetation, damaged archaeological sites, initiated erosion, and resulted in conflicts between recreational users. Some of these routes are also extremely narrow and are situated on the edge of unstable river banks, making them a safety hazard.

In the popular spring-use period, birdwatchers, hikers, bikers, horseback riders, and other non-motorized recreational users expect to observe wildlife (particularly birds) in a relatively natural environment. However, their expectations are often unmet because of the dominance of motorized recreationists in this area of the canyon. On typical spring weekends loud noises from motor vehicles, including OHMVs and jetboats operating in this narrow area, resonate off high canyon walls and can be easily heard on either side of the river. This kind of use can conflict with recreational uses such as observing raptors, viewing archaeological sites, and sightseeing.

The Halverson Lake area is particularly affected by motorized use, most notably in the spring and early summer months. Vehicle use in this area has reduced the scenic quality of the canyon by leaving extensive networks of tire tracks around Little Halverson Lake as well as erosional gullies, abandoned vehicles, and areas denuded of vegetation. The steep hills at the base of the canyon wall from Priest Grade west to Halverson Lake are scarred with vehicle tracks despite the presence of signs that prohibit vehicle use in that area.

On the Snake River Plain above the canyon, vehicle use causes fewer problems because it is dispersed, and because cultural and natural features are less concentrated than in the canyon. Efforts to control use and minimize resource damage will focus on developing a designated road and trail system that eliminates cross-country travel in this area.

Environmental Analysis of Access Management Alternatives

Proposed access management alternatives do not apply to the administrative use of roads and trails for purposes such as emergency response, law enforcement, military training, and other uses authorized by the BLM.

Alternative No. 1 (No Action):

The 1984 Off-Road Vehicle Management Plan limited vehicle use to designated roads and trails within the former Snake River Birds of Prey Natural Area. These restrictions would remain in effect. In addition, a number of the actions approved in the 1985 plan have already been implemented. For instance, Dedication Point and the Black Butte Boat Ramp were constructed and Halverson Dunes was closed to off-road vehicle activity. Vehicle management actions included in this alternative are those that were approved in the 1985 Plan but were not subsequently implemented. These include:

A. Improve to low speed all-weather standard the river access road from the Vastine ranch cattleguard in Section 36, T. 1 S., R. 1 W., upstream to approximately the section line between sections 31 and 32 in T. 1 S., R. 2 W. Construct a parking area at that location and close the road through the "boulder field" at that point. Gravel small parking areas (20' x 20') at heavily used fishing sites.

B. Improve to low speed gravel status the road on the north side of the Snake River downstream of the Idaho Power Company property at Swan Falls to the USGS gauging station across from Wees Bar in Section 35, T. 1 S., R. 1 W. Close the road downstream from the Initial Butte Farms pump station. Gravel small parking areas at popular fishing sites.

C. Install signs posting the access road to the Priest Ranch as unsuitable for low-clearance, two-wheel-drive vehicles.

D. Permanently close the road which traverses the canyon wall in Section 33, T. 1 S., R. 1 W.

E. Encourage the Idaho Department of Fish and Game to acquire a Sportsman's Access easement through the Frisch property (Section 25, T. 1 S, R. 1 W.).

F. Install locking gates on both ends of the Cabin Draw road to eliminate all traffic except for emergency and administrative purposes.

G. Designate primary visitor use sites and create improved parking at the following locations:

(1) The upstream terminus of the proposed improved road to Halverson Bar.
(2) The top of the Swan Falls grade north of the river.

Associated Impacts:

1. Would reduce motorized recreational opportunities in parts of the Snake River Canyon.

2. Would improve the quality of the recreational experience for some users, e.g. birdwatchers, horseback riders, and hikers.

3. Would reduce current particulate dust levels, erosion, and soil loss related to vehicle use by decreasing the number of dirt roads, trails, and ways throughout the NCA.

4. Would not affect motorized recreational opportunities outside of the canyon.

5. Would allow vehicle-related impacts to prey habitat to continue on more than 400,000 acres of public land outside of the canyon.

6. Would not mitigate safety concerns about dangerous roads, particularly those in the Snake River Canyon upstream of Celebration Park on the north shore of the river.

Alternative No. 2 (Proposed Action):

Under this alternative, BLM would retain administrative use of roads and trails for management, research, fire suppression, law enforcement, etc.

A. Except for a small area of the Owyhee Front within the NCA, declare the NCA a Designated Vehicle Management Area requiring that vehicles remain on designated roads or trails.

B. On the north side of the river from where the road downstream from Swan Falls Dam enters public land in the NE1/4 of Section 12, T. 2 S., R. 1 W., downstream to the Initial Butte Farms pump station in Section 35, T. 1 S.,R. 1 W., define a single route, gravel it, provide pullouts at popular fishing spots, and eliminate all other roads in this stretch.

C. Close the road described in "B" above to motorized traffic from the pump station downstream to the cattleguard in Section 36, T. 1 S., R. 2 W., just upstream from Celebration Park.

D. Upgrade vehicle access from the end of Can Ada Road to the cliffs above Halverson Lake. Acquire a public access easement through private property and gravel the road to a point just above Halverson Lake. Develop a parking area for 20-30 vehicles. Improve the trail to the lake. Allow only non-motorized traffic on the trail.

E. Permanently close Priest Grade (Section 33, T. 1 S., R. 1 W.) to motorized vehicle use.

F. In cooperation with Idaho Department of Fish and Game, construct a Sportsmen's Access along the Snake River at the end of Con Shea Basin Road in Section 6, T. 1 S., R. 1 W. Implement the existing road closure affecting the trail that continues downstream from that point to Guffey Bridge to all motorized traffic.

G. Construct a 14-mile interpretive trail around the base of Guffey Butte for non-motorized use. Develop an equestrian trailhead facility in Section 12, T. 2 S., R. 2 W.

H. Designate a non-motorized trail extending downstream on the south side of the Snake River from Swan Falls Dam to the proposed Guffey Butte Trail.

I. Close to motorized vehicles the road that descends from the rim of the Snake River Canyon to the south side of the Snake River in Section 24, T. 2 S., R. 1 W.

J. Block vehicle access into Cabin Draw in Section 11, T. 4 S., R. 2 E. at the following locations: 1) at the rim of the canyon; and 2) at the junction of the road along the Snake River and the Cabin Draw Road.

K. Establish or upgrade vehicle parking areas at the following locations: 1) in the vicinity of Celebration Park; 2) the top of Swan Falls grade on the north side of the canyon; 3) above Swan Falls Dam on the south side of the canyon; 4) at the proposed equestrian facility near Guffey Butte in Section 12, T. 2 S., R. 2 W.; 5) the Halverson Lake Trailhead in Section 32, T. 1 S., R. 1 W.; and 6) the Black Butte Boat Ramp.

Associated Impacts:

1. Would meet the legislative mandate to provide for the protection and enhancement of raptor and raptor prey habitats while allowing compatible uses to continue.

2. Would improve the quality of the recreational experience for some users such as birdwatchers, horseback riders, and hikers by eliminating motor vehicle use in parts of the canyon.

3. Would improve road conditions and access to parking for motorized users along portions of the Snake River.

4. Would improve visitor safety by closing unsafe portions of road along the north side of the Snake River upstream of Celebration Park.

5. Would improve air quality by decreasing the number of dirt roads, trails, and ways throughout the NCA, thereby decreasing airborne particulates.

6. Would decrease the amount of soil and vegetation loss and associated watershed damage caused by motor vehicle use.

7. Would eliminate cross-country (off-road) motor vehicle use throughout the entire NCA.

8. Would reduce recreation opportunities for motorized vehicle users in parts of the Snake River Canyon.

Alternative No. 3:

This alternative would involve plowing and rehabilitating most existing dirt roads, tracks, and trails within the NCA to restore habitat and minimize disturbance to wildlife. Only existing major paved and gravel roads or those roads now approved for construction/upgrade would remain for general public motorized use. Use of some dirt roads closed to the general public would be allowed for individuals, groups, or companies with rights-of-way or economic interests in the NCA (for example, Idaho Power Company for maintenance of their power lines; Idaho Army National Guard for its authorized training activities; or livestock permittees for facilities maintenance). BLM would retain administrative use of some dirt roads and trails for management, research, fire suppression, law enforcement, etc., but such use would be minimized.

Associated Impacts:

1. Would maximize the legislative mandate to provide for the protection of raptor and prey habitat.

2. Would maximize the quality of recreational experiences for non-motorized users.

3. Would substantially improve air quality and erosional problems related to vehicle use throughout the NCA.

4. Would severely curtail motorized recreational use over the entire NCA.

5. Would greatly increase BLM's administrative costs related to access barrier construction, road rehabilitation, and law enforcement.

Alternative No. 4:

Under this alternative, BLM would retain administrative use of roads and trails for management, research, fire suppression, law enforcement, etc.

A. Except for a small area of the Owyhee Front within the NCA, declare the NCA a Designated Vehicle Management Area requiring that vehicles remain on designated roads or trails.

B. On the north side of the river from where the road downstream from Swan Falls Dam enters public land in the NE1/4 of Section 12, T. 2 S., R. 1 W., downstream to the Initial Butte Farms pump station in Section 35, T. 1 S.,R. 1 W., define a single route, gravel it, provide pullouts at popular fishing spots, and eliminate all other roads in this stretch.

C. Close the road described in "B" above to motorized traffic from the pump station downstream to the cattleguard in Section 36, T. 1 S., R. 2 W., just upstream from Celebration Park.

D. Upgrade vehicle access from the end of Can Ada Road to the cliffs above Halverson Lake. Acquire a public access easement through private property and gravel the road to a point just above Halverson Lake. Develop a parking area for 20-30 vehicles. Improve the trail to the lake. Allow only non-motorized use of the trail.

E. Permanently close Priest Grade (Section 33, T. 1 S., R. 1 W.) to motorized vehicle use.

F. Construct a 14-mile interpretive trail around the base of Guffey Butte for non-motorized use. Develop an equestrian trailhead facility in Section 12, T. 2 S., R. 2 W.

G. Block vehicle access into Cabin Draw in Section 11, T. 4 S., R. 2 E. at the following locations: 1) at the rim of the canyon; and 2) at the junction of the road along the Snake River and the Cabin Draw Road.

H. Establish or upgrade vehicle parking areas at the following locations: 1)

in the vicinity of Celebration Park; 2) the top of Swan Falls grade on the north side of the canyon; 3) at the proposed equestrian facility near Guffey Butte in Section 12, T. 2 S., R. 2 W.; 5) the Halverson Lake Trailhead in Section 32, T. 1 S., R. 1 W.; and 6) the Black Butte Boat Ramp.

I. Place signs along existing roads to inform users that off-road use is prohibited.

J. Monitor vehicle use on roads remaining open to ensure that continued vehicle travel is not having a negative environmental impact.

Associated Impacts:

1. Would meet the legislative mandate to provide for the protection and enhancement of raptor and raptor prey habitats while allowing compatible uses to continue.

2. Would improve the quality of the recreational experience for some users such as birdwatchers, horseback riders, and hikers by eliminating motor vehicle use on the north side of the canyon.

3. Would improve road conditions and access to parking for motorized users along portions of the north side of the Snake River.

4. Would improve visitor safety along the north side of the Snake River by closing unsafe portions of road upstream of Celebration Park.

5. Would improve air quality by decreasing the number of dirt roads, trails, and ways throughout the NCA, thereby decreasing airborne particulates.

6. Would decrease the amount of soil and vegetation loss and associated watershed damage caused by motor vehicle use.

7. Would reduce and hopefully eliminate cross-country motor vehicle use throughout the entire NCA.

8. Would reduce recreation opportunities for motorized vehicle users along portions of the north side of the Snake River.

9. Motorized access would be maintained on the south side of the river.

10. Vehicle-caused soil erosion would continue in some areas along the south side of the river.

11. Negative impacts to cultural sites at Wees Bar would be partially mitigated.

12. User conflicts would increase between motorized and non-motorized users along the proposed Guffey Butte Trail.

13. Administrative costs related to signing, road rehabilitation, monitoring, and law enforcement would increase.

Recommendation / Rationale for Selecting the Preferred Alternative

The recommendation is to select Alternative 4 as the preferred alternative with the following modifications (Map H):

1. The trail between the terminus of Con Shea Basin Road and Guffey Bridge would be closed to motorized vehicles.

2. The trail on the south side of the river downstream from Priest Ranch would be closed to motorized vehicles.

The preferred alternative is recommended for the following reasons:

1. It meets the legislative mandate of protecting and enhancing raptors and raptor prey.

2. It is the most responsive to public concerns about maintaining motorized access along the south side of the river.

3. It provides for substantial reductions in air quality and erosional problems related to vehicle use.

4. It provides substantial protection for significant cultural sites.

5. It significantly reduces current conflicts between motorized and non-motorized users of the NCA.

Visitor Information and Education

The need for a comprehensive visitor information program has grown as visitation to the NCA has increased. Visitor requests for information about the NCA have generally been handled by the BLM Lower Snake River District office, but large increases in visitor use in recent years have revealed the need for more sophisticated education programs and a more efficient way to distribute visitor information. Factors contributing to the need for a more extensive visitor information program include:

1. The Snake River Birds of Prey Area has been designated by Congress as a National Conservation Area, one of only eight such areas in the U.S. and the only one in Idaho.

2. The significant population growth of Boise and southwestern Idaho has resulted in rapid growth in visitor use and requests for information.

3. The Peregrine Fund's construction of the World Center for Birds of Prey Visitor Center has created increased public interest in visiting the NCA.

4. Establishment of Boise State University's Raptor Studies program has created an expanded knowledge of and interest in the NCA.

5. Increased media exposure has generated many information requests from throughout the U.S., as well as from foreign countries.

6. The NCA is increasingly used as an environmental education field laboratory by local and out-of-the-area schools and organized groups.

Management Actions

Recreational Shooting

1) Close public lands year-round to the discharge of rifles and pistols within the Snake River Canyon from Gold Island (near Grandview) downstream to Celebration Park except for the deer hunting season in Hunting Unit 40. Shotguns and muzzleloaders will be allowed within this area only from September 1 to February 14. The width of the closed area will be 1/2 mile from the river or 100 yards back from the canyon rim, whichever is greater.

2) Close year-round to the discharge of rifles and pistols the portion of the NCA located north of Pacific Power & Light Company's 500-kV electric transmission line and west of Swan Falls Road (see Map). Within this area, organized groups may apply to develop and manage a target shooting range(s). Groups wishing to apply for this privilege will be required to show that they are able to adequately develop, manage, and maintain the site to avoid adverse impacts to other users in the area.

3) Continue the public access and shooting closure within the artillery impact area of the National Guard Orchard Training Area. The closure does not affect military training activities.

4) Encourage the Idaho Department of Fish and Game to incorporate the

above safety-related shooting closures in the Idaho fish and game regulations.

5) Monitor recreational use within the NCA to determine whether the above shooting closures cause significant shifts in recreational shooting within the NCA and what impacts these changes have on other recreational users. If significant impacts to resources and/or other users are detected, closure area boundaries will be modified to mitigate the impacts.

6) Post signs throughout the NCA to inform the public of shooting closure boundaries and periods, and to warn shooters of other users during open periods.

Access Management

7) Maintain the OHMV Limited - Level 1 designation for those portions of the NCA located within the Owyhee Front SRMA and the Fossil Creek OHMV Management Unit. This designation limits all vehicle use to existing roads, jeep trails, motorcycle trails, and sand washes, except as otherwise posted. Specific sites within these areas may be closed to OHMV activity on an emergency basis to protect existing sensitive plant populations.

8) Except for those areas specified within the Owyhee Front SRMA and the Fossil Creek OHMV Management Unit, declare the NCA a Designated Vehicle Management Area requiring that vehicles remain on designated roads and trails. BLM will retain administrative use of all roads and trails for purposes such as management, research, fire suppression, law enforcement, etc. BLM also retains the right to authorize necessary off-road vehicle travel for purposes related to livestock management, right-of-way facility construction and maintenance, military training, etc.

9) Improve the low speed gravel road on the north side of the river from where the road enters public land downstream from Swan Falls Dam in the NE1/4 of Section 12, T. 2 S., R. 1 W., downstream to the Initial Butte Farms pump station in Section 35, T. 1 S.,R. 1 W. Close braided roads and define a single vehicle route through this area. Close the road downstream from the Initial Butte Farms pump station to motorized traffic. Gravel small parking areas at popular fishing locations.

10) Develop cooperative agreements with Idaho Power Company to make similar road improvements and closures of braided roads on their property from Swan Falls Dam downstream to BLM property on the north side of the Snake River.

11) Coordinate with Canyon County Parks and Recreation and the local Highway District to upgrade Victory Lane, the primary access point to Celebration Park and the west end of the NCA.

12) Do not pave the portion of the Celebration Park access road that traverses BLM land, but place the road on the BLM Lower Snake River District road inventory for regular maintenance.

13) Close to motorized traffic the road that parallels the north bank of the Snake River upstream from the private property in Section 36, T. 1 S., R. 2 W. Allow continued non-motorized use of the road for mountain bikers, horseback riders, hikers, etc. Pursue acquisition of an easement for the portion of this road that crosses private land to extend access for motorized vehicles about 1/2 mile further upstream.

14) Develop a parking area to accommodate horse trailers on the bench above the river to minimize impacts to Celebration Park. This may require acquisition of an easement on private land.

15) Upgrade vehicular access to Halverson Lake from Can Ada Road to a point just above Halverson Lake known as Jensen Cliffs in the N1/2 of Section 32, T. 1 S., R. 1 W. Acquire easements across private land where needed, and construct a graveled parking area with space for 20 to 30 cars at a point just above the existing trail to Halverson Lake. The parking area should accommodate horse trailers. The rough 1/4-mile trail to Halverson Lake, will be improved but will be limited to non-motorized use. Vehicle barriers, a restroom, regulatory and directional signing, and trash receptacles will be placed at the trailhead.

16) Permanently close the road that traverses the canyon wall in Section 33, T. 1 S., R. 1 W. (Priest Grade).

17) In cooperation with the Idaho Department of Fish and Game, construct a Sportman's Access/Parking Area at the terminus of Con Shea Basin Road, near the pump station on the south side of the Snake River in Section 6, T. 1 S., R. 1 W. From that point downstream, close to all motorized traffic the two-track road that continues on to Guffey Bridge.

18) South of the Snake River within the NCA, construct a 14-mile long interpretive loop trail around the base of Guffey Butte that will connect with a northern trail system at Guffey Bridge. The trail will be reserved for non-motorized use (hiking, biking, and horseback riding). Trailheads will be developed at Celebration Park for hikers and bikers, and near the Oregon Trail south of the river in Section 12, T. 2 S., R. 2 W. for horseback riders. The trail will provide recreational and interpretive/

educational opportunities while channelling use away from sensitive raptor nesting areas at the top of Guffey Butte.

19) Close the portion of road on the south side of the Snake River downstream from Priest Ranch to motorized vehicles to reduce impacts to existing cultural sites.

20) Place the Bigfoot Bar access road on the BLM Lower Snake River District road inventory to ensure more regular road maintenance.

21) Block access to both ends of the Cabin Draw Road to eliminate all traffic except for emergency and administrative purposes.

22) Establish and/or upgrade additional vehicle parking areas:

    a. In the vicinity of Celebration Park. Additional parking should be provided for horse trailers and other large vehicles.

    b. At the top of Swan Falls Grade, north of the river.

    c. At the equestrian facility in Owyhee County near the Oregon Trail in Sec. 12, T. 2 S., R. 2 W.

    d. At the Halverson Lake trailhead in Sec. 32, T. 1 S., R. 1 W.

23) Upgrade the float boat launch ramp at Black Butte. Construct a picnic area and kiosk and improve parking facilities at the site.

24) Complete an inventory of roads and trails within the NCA to determine which specific roads and trails will be included in the NCA's designated road system.

25) Physically block closed roads to prevent further use by vehicles to the extent practical.

26) Develop a recreation monitoring plan to evaluate the effectiveness of management actions enacted throughout the NCA. The plan will detail monitoring requirements to evaluate road use, user conflicts, off-road vehicle use, soil erosion, vegetative establishment, vandalism, safety problems, etc.

Environmental Education / Interpretation

27) Develop an interpretive/education plan that integrates public information and contact, educational curricula, interpretive site design, signs,

publications, and volunteer participation. The interpretive plan will address the following:

a. Subject to the determinations of the interpretive plan, install high quality interpretive signing and/or information kiosks at key locations throughout the area, including but not limited to: Dedication Point; Wees Bar House and petroglyph field; Halverson Lake Trailhead; Halverson Bar historic mining area; Black Butte boat ramp; Oregon Trail sites in Con Shea Basin, Sinker Butte and Cove Recreation Site; Cabin Draw; Kuna Butte; Initial Point and at major entry points in Kuna, Boise, Celebration Park, and Orchard.

b. Develop, with Idaho Power Company, a visitor information and contact station at Swan Falls Dam staffed by BLM and Idaho Power Company personnel during high use periods.

c. Develop with Canyon County Parks and Recreation Department a cultural resource outreach and education program that operates out of Celebration Park.

d. Enter into partnerships and cooperative agreements with a variety of local governments, institutions, civic and conservation groups, and individuals to further the goals and management of the NCA.

e. The interpretive plan will develop and direct a program of public information and education concerning existing and undiscovered cultural sites within the NCA. This program will include brochures, signs, tours, educational materials for schools, and public exhibits. Interpretive potential for specific sites will be determined as a joint effort between archaeologists and recreation planners. Specific sites should meet the following criteria in order to be considered for interpretation:

   e1. Sites are already well-known to the public and locations may even be shown on topographic maps as a point of interest;

   e2. Sites are highly visible, accessible, and receive heavy recreation use;

   e3. Sites may be at locations that are heavily utilized for other purposes such as fishing, undeveloped campgrounds, etc.;

   e4. Sites are not held sacred by Native Americans or other groups;

   e5. Sites can withstand heavy recreational use.

28) Develop and implement a visitor-use monitoring plan that accurately measures a variety of user characteristics such as numbers of users, types of use, county/state/country of origin, etc., in order to determine future resource protection, management, and facility and staffing needs.

General

29) Where possible, remove, rehabilitate, or screen existing visual distractions in Class I, II, and III Visual Resource Management (VRM) areas to make them less conspicuous. All new developments on public lands within the NCA will be subordinate to the existing landscape character and will be located, designed, and constructed in a manner to maintain or improve existing VRM classes. Existing facility designs will be improved to reduce visual impacts as maintenance or reconstruction allow.

30) Prohibit rock climbing and rappelling within the Snake River Canyon. The BLM authorized officer may issue specific permission for rock climbing/rappelling for research purposes on a case-by-case basis.

31) Encourage the Federal Aviation Administration to invoke an aircraft closure prohibiting aircraft, except for emergencies, from flying lower than 1,000 feet above the Snake River Canyon rim within the portion of the Snake River Canyon located within the NCA, or to designate the area as a special air management zone.

32) Amend the Snake River Birds of Prey Area Special Recreation Management Area (SRMA) designation to include the entire NCA. In the future if the NCA boundary is modified, the SRMA boundary will change accordingly.

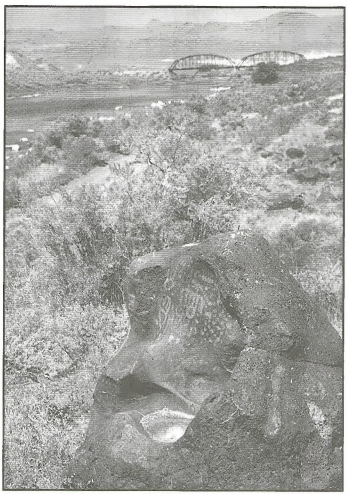
33) Maintain the current allocation for commercial boating permits at 5 outfitters, with a maximum of 10 overnight trips per outfitter between March 1 and June 30. Maintain the current allocation for land-based commercial permits at 5 outfitters, with a maximum of 10 overnight trips per outfitter March 1 through June 30. Maximum group size for overnight trips will be 15 people including guides. Commercial day trips may exceed 30 individuals with the permission of the BLM authorized officer. Commercial recreational activities will be monitored and adjusted as necessary to protect the resource base and avoid conflicts with non-commercial recreational activities.

34) Prohibit use of paintball guns and equipment within the Snake River Canyon, and within 1/4 mile of the canyon.

Prehistoric Resources

Prehistoric archaeological sites within the NCA are numerous and may represent human occupation spanning 15,000 years. Based on more than 60 years of research, the Snake River Canyon within the NCA can be described as one of the most densely occupied areas of southwestern Idaho during prehistoric times.

The Guffey Butte/Black Butte Archaeological District (GBBBAD), encompassing approximately 27,000 acres within the NCA, was placed on the National Register of Historic Places in 1978. The GBBBAD contains more than 200 recorded sites, while the entire NCA contains more than 800 recorded sites. Undiscovered sites probably occur throughout the GBBBAD and the larger NCA. Because of the quality, quantity, and time span represented in the sites, the NCA remains of great interest to scientific investigators.



Prehistoric petroglyphs and the historic Guffey Railroad Bridge, found near Celebration Park, highlight the importance of the Snake River Canyon to both Native American and Euro-American cultures.

The National Historic Preservation Act of 1966 states that cultural resources on public lands are public resources that belong to all Americans. To avoid adverse impacts, federal agencies are required to give special consideration to National Register Properties in land use activity decisions. Except in rare cases, the public has a right to make non-consumptive use of cultural resources. However, cultural resources within the NCA have suffered serious impacts over the years. To a great degree those impacts continue today. Many sites have been damaged by ran-

dom surface collection and excavation of artifacts by relic collectors. Rockshelters and caves that sometimes contain rare, perishable items and datable deposits of special significance to researchers have been looted and vandalized. Some of the finest rock art in the Pacific Northwest is found here and has suffered from repeated vandalism. Uncontrolled vehicle use, both on and off road, has directly damaged some sites and has initiated erosional processes that continue to destroy irreplaceable cultural resources.

Historic Resources

The NCA contains abundant evidence of historical human presence. In parts of the NCA ruts of the Oregon National Historic Trail are still visible. Swan Falls Dam, built in 1901 (the first dam built on the Snake River); the historic Guffey Bridge, built in 1897; the abandoned track bed of the Boise, Nampa, and Owyhee Railroad; the all but vanished townsite of Guffey; Con Shea Basin, where Idaho's first cattle herds grazed in the 1860s; the historic placer mining community of Halverson Bar are all within the NCA and are either listed or eligible for listing on the National Register of Historic Places.

Historic sites, like prehistoric sites, are being damaged and destroyed by theft, vandalism, and ignorance at an alarming rate. In addition, scientific uses of cultural resources involve the destruction of some portion of a site. While recognizing the importance of the area for scientific research, consumptive research will be allowed only after careful review and consultation with the Idaho State Historic Preservation Officer and affected Indian tribes.

Related Existing Plans

In 1990 the BLM Lower Snake River District published the Snake River Birds of Prey Cultural Resource Management Plan. The plan recognized that the more than 200 archaeological sites in the Birds of Prey Natural Area were in desperate need of comprehensive management and protection. The plan proposed to achieve management and protection by accomplishing the following objectives: 1) compiling all existing cultural resource inventory data; 2) identifying sources of deterioration affecting sites; 3) identifying technically feasible protection measures; and 4) developing a monitoring plan and schedule.

BLM is required to consult with Native American tribes having an interest in public land management. BLM is also required to consider Native American interests for traditional use areas such as hunting and fishing grounds, plant gathering areas, sacred places, burials and ceremonial locations in its land management practices.

As with other significant resources of the area, even with a comprehensive management plan in place, cultural resources in the NCA have continued to suffer without sufficient funds or staff to properly protect them. Increased staff and funding levels would aid in implementing programs to reduce or eliminate the loss of these fragile resources.

Management actions previously developed for the 1990 Snake River Birds of Prey Area Cultural Resource Management Plan are being carried forward in this plan.

Management Actions

General

1) Revise the 1990 Cultural Resource Management Plan to include the entire NCA.

2) Prepare an annual NCA cultural resources management report by December 31 each year summarizing the year's accomplishments. Copies will be provided to the State Historic Preservation Officer (SHPO) and other interested parties.

Consultation and Coordination

3) Consult with the Shoshone-Paiute Tribes at Duck Valley at least once a year on current policies and management of cultural resources in the NCA. Develop an MOA with the Tribe if they have concerns in the NCA.

4) Enter into a cooperative agreement to share skills and resources with Idaho Power Company (IPCo) so that cultural resources on BLM and IPCo lands within the NCA are protected in similar fashion.

5) Provide cultural resource input each time the MOU/MOA with IDARNG is reviewed. Identify conflicts between military use and cultural resources and make appropriate recommendations.

Data Management

6) Create a table cross-referencing site numbers from different systems to reconcile differences in site size, location, and type that plagues the current site recordation files in the NCA. Consult with the SHPO and complete further inventory, if necessary, to determine actual site location and size.

7) Design a site monitoring form for use in the NCA.

8) Enter all sites within the NCA into the Intermountain Antiquities Computer System (IMACS) database.

9) Compile and index all photographs and slides pertaining to sites in the NCA. Acquire low-level aerial photography of the lands within the NCA.

10) Computerize and cross-reference all bibliographic information relating to cultural resources in the NCA.

Visitor Use Control

11) Support recommendations of the NCA Recreation Management Plan for the control of visitor use, including:

a. Increasing visitor contact and law enforcement.

b. Expanding public information programs.

c. Closing roads and trails that are causing damage to archaeological sites.

d. Limiting vehicle access to designated roads and trails.

e. Defining single vehicle routes through sites to avoid further damage to cultural resources in areas where multiple, braided roads have developed.

Outfitter Permit Conditions

12) Insert the following stipulations into commercial outfitter permits:

a. Permittee and trip participants shall not disturb archaeological values including, but not limited to, petroglyphs, historic structures, rockshelters, and open sites. Petroglyphs shall not be chalked or otherwise physically enhanced for photographs or for any other reason.

b. Permittees shall not disturb existing cultural values. In addition, they shall immediately report cultural resources uncovered during authorized operations.

c. Permittees shall brief clients on laws that protect cultural resources before each trip, and shall instruct clients on proper non-consumptive behavior with respect to cultural resources. BLM will provide informational materials for briefings.

Physical Protection Measures

13) Protect specific sites through use of physical protection methods outlined in Section VI of the Snake River Birds of Prey Cultural Resource Management Plan.

Public Education

14) Develop an interpretive/education plan that integrates public information and contact, educational curricula, interpretive site design, signs, publications, and volunteer participation. The interpretive plan would address the following:

a. Subject to the determinations of the interpretive plan, install high quality interpretive signing and/or information kiosks at key locations throughout the area including, but not limited to: Dedication Point; Wees Bar House and petroglyph field; Halverson Lake Trailhead; Halverson Bar historic mining area; Black Butte boat ramp; Oregon Trail sites in Con Shea Basin, Sinker Butte and Cove Recreation Site; Cabin Draw; Kuna Butte; Initial Point and at major entry points in Kuna, Boise, Celebration Park, and Orchard.

b. Develop, with Idaho Power Company, a visitor information and contact station at Swan Falls Dam staffed by BLM and Idaho Power Company personnel during high use periods.

c. Develop, with Canyon County Parks and Recreation Department, a cultural resource outreach and education program that would operate out of Celebration Park.

d. Enter into partnerships and cooperative agreements with a variety of local governments, institutions, civic and conservation groups, and individuals to further the goals and management of the NCA.

e. The interpretive plan will develop and direct a program of public information and education concerning existing and undiscovered cultural sites within the NCA. This program will include brochures, signs, tours, educational materials for schools, and public exhibits. Interpretive potential for specific sites will be determined as a joint effort between archeologists and recreation planners. Specific sites should meet the following criteria in order to be considered for interpretation:

e1. Sites are already well-known to the public and locations may even be shown on topographic maps as a point of interest;

e2. Sites are highly visible, accessible, and receive heavy recreation use;

e3. Sites may be at locations that are heavily utilized for other purposes, such as fishing, undeveloped campgrounds, etc.;

e4. Sites are not held sacred by Native Americans or other groups;

e5. Sites can withstand heavy recreational use.

Scientific Use of Cultural Resources:

15) Coordinate proposals for consumptive cultural research with the Idaho SHPO and affected Indian tribes. Approval for consumptive research will only be given in the following circumstances:

a. The affected site requires emergency salvage because ongoing or potential damage to the site cannot be avoided.

b. The information to be acquired from excavation of the site outweighs the loss of the site itself.

16) All decisions to issue permits for scientific use of cultural resources will be made in accordance with the NCA's research and monitoring protocols, as outlined in the to-be-developed Procedures for Managing Research, Inventory, Studies, and Monitoring (PRISM) document.

Appendix A. Plants of Special Concern

SPECIES	STATUS	HABITAT
Murphy milk-vetch (Astragalus camptopus)	SM	dry sandy soil in shadscale, horsebrush, and greasewood
Mulford's milk-vetch (Astragalus mulfordiae)	C1	sandy slopes of alluvial deposits and dunes in Wyoming big sagebrush and salt desert shrubs
Snake River milk-vetch (Astragalus purshii ophiogenes)	SS	dry sandy soil in lake bed sediments
Esteve false yarrow (Chaenactis stevioides)	S1	sandy soil in salt desert shrub and Wyoming big sagebrush
Matted cowpie buckwheat (Eriogonum shockleyi)	SS	gravelly benches and chalk soils in Wyoming big sagebrush and salt desert shrubs
Packard's cowpie buckwheat (Eriogonum shockleyi packardiae)	S2	sandy soil over lava flows in big sagebrush/salt desert shrub sites.
White-margined waxplant (Glyptopleura marginata)	SS	dry sandy soils in salt desert shrubs
Davis peppergrass (Lepidium davisii)	C2	hard bottomed playas in Wyoming big sagebrush and salt desert shrubs
Slick-spot peppergrass (Lepidium papilliferum)	C2	clay lenses in Wyoming big sagebrush
Desert dandelion (Malacothrix glabrata)	SM	sandy soils in salt desert shrub

Torrey's blazing star (Mentzelia torreyi acerosa)	SM	barren soils of volcanic cinders or lacustrine deposits
Turtle-back (Psathyrotes annua)	S1	sandy flats and washes in salt desert shrub
American wood sage (Teucrium canadense occidentale)	S1	moist low ground
Woven-spore lichen (Texosporium santi-jacobi)	C2	on old Poa clumps in Wyoming big sagebrush

Status Key:

C1 - Federal Candidate 1: Plants for which the U.S. Fish and Wildlife Service currently has substantial information on hand to support the biological appropriateness of proposing to list as endangered or threatened. Proposed rules have not been issued, but development and publication of such rules are anticipated.

C2 - Federal Candidate 2: Listing as threatened or endangered may be appropriate, but the United States Fish and Wildlife Service lacks sufficient data to support such action.

S1 - State Priority 1: Plants whose populations are present only at critically low levels or whose habitats have been degraded or depleted to a significant degree.

S2 - State Priority 2: Plants that are likely to be classified as Priority 1 if factors contributing to their population decline or habitat degradation or loss continue.

SS - State Sensitive: Plants with small populations or localized distributions within Idaho that presently do not meet the criteria for classification as Priority 1 or 2, but whose populations and habitats may be jeopardized without active management or removal of threats.

SM- State Monitor: Plants that are common within a limited range as well as those that are uncommon, but have no identifiable threats.

Buffalo bur (Solanum rostratum)
Canada thistle (Cirsium arvense)
Common crupina (Crupina vulgaris)
Dalmation toad flax (Linaria dalmatica)
Diffuse knapweed (Centaurea diffusa)
Dyers woad (Isatis tinctoria)
Field bindweed (Convolvulus arvensis)
Henbane (Hyoscyamus niger)
Johnsongrass (Sorghum halepense)
Jointed goatgrass (Aegilops cylindrica)
Leafy spurge (Euphorbia esula)
Loosestrife (Lythrum salicaria)
Matgrass (Nardus stricta)
Meadow knapweed (Centaurea pratensis)
Milium (Milium vernale)
Musk thistle (Carduus nutans)
Orange hawkweed (Hieracium aurantiacum)
Perennial pepperweed (Lepidium latifolium)
Perennial sowthistle (Sonchus arvensis)
Poison hemlock (Conium maculatum)
Puncture vine (Tribulus terrestris)
Rush skeletonweed (Chondrilla juncea)
Russian knapweed (Centaurea repens)
Scotch broom (Cytisus scoparius)
Scotch thistle (Onopordon acanthium)
Silver-leaf nightshade (Solanum elaeagnifolium)
Skeletonleaf bursage (Ambrosia tomentosa)
Spotted knapweed (Centaurea maculosa)
Syrian beancaper (Zygophyllum fabago)
Tansy ragwort (Senecio jacobaea)
Toothed spurge (Euphorbia dentata)
White-top (Cardaria draba)
Yellow hawkweed (Hieracium pratense)
Yellow starthistle (Centaurea solstitialis)
Yellow toad flax (Linaria vulgaris)

Appendix C. Raptors Occurring in the NCA

BREEDING RAPTORS

Golden eagle
(Aguila chrysaetos)
Ferruginous Hawk
(Buteo regalis)
Red-tailed hawk
(Buteo jamaicensis)
Swainson's hawk
(Buteo swainsoni)
Northern harrier
(Circus cyaneus)
Prairie falcon
(Falco mexicanus)
American kestrel
(Falco sparverius)
Great horned owl
(Bubo virginianus)
Barn owl
(Tyto alba)
Long-eared owl
(Asio otus)
Short-eared owl
(Asio flammeus)
Burrowing owl
(Speotyto cunicularia
Western screech-owl
(Otus kennicottii)
Northern saw-whet owl
(Aegolius acadicus)

MIGRATING RAPTORS

Bald eagle
(Haliaeetus leucocephalus)
Rough-legged hawk
(Buteo lagopus)
Peregrine falcon
(Falco peregrinus)
Merlin
(Falco columbarius)
Gyrfalcon
(Falco rusticolus)
Osprey
(Pandion haliaetus)
Northern goshawk
(Accipiter gentilis)
Cooper's hawk
(Accipiter cooperii)
Sharp-shinned hawk
(Accipiter striatus)
Barred owl
(Strix varia)

Appendix D. Birds Occurring in the NCA

Osprey
(Pandion haliaetus)
Bald eagle
(Haliaeetus leucocephalus)
Northern harrier
(Circus cyaneus)
Sharp-shinned hawk
(Accipiter striatus)
Cooper's hawk
(Accipiter cooperii)
Northern goshawk
(Accipiter gentilis)
Swainson's hawk
(Buteo swainsoni)
Red-tailed hawk
(Buteo jamaicensis)
Ferruginous hawk
(Buteo regalis)
Rough-legged hawk
(Buteo lagopus)
Golden eagle
(Aquila chrysaetos)
American kestrel
(Falco sparverius)
Prairie falcon
(Falco mexicanus)
Merlin
(Falco columbarius)
Peregrine falcon
(Falco peregrinus)
Gyrfalcon
(Falco rusticolus)

Barn owl
(Tyto alba)
Western screech-owl
(Otus kennicottii)
Great horned owl
(Bubo virginianus)
Burrowing owl
(Speotyto cunicularia)
Long-eared owl
(Asio otus)
Short-eared owl
(Asio flammeus)

Northern saw-whet owl
(Aegolius acadicus)
Barred owl
(Strix varia)

Pacific loon
(Gavia pacifica)
Common loon
(Gavia immer)

Pied-billed grebe
(Podilymbus podiceps)
Horned grebe
(Podiceps auritus)
Eared grebe
(Podiceps nigricollis)
Red-necked grebe
(Podiceps grisegena)
Western grebe
(Aechmophorus occidentalis)
Clark's grebe
(Aechmophorus clarkii)

American white pelican
(Pelecanus erythrorhynchos)
Double-crested cormorant
(Phalacrocorax auritus)

American bittern
(Botaurus lentiginosus)
Black-crowned night heron
(Nycticorax nycticorax)
Cattle egret
(Bubulcus ibis)
Snowy egret
(Egretta thula)

Great egret
(Casmerodius albus)

Green heron
(Butorides virescens)
Great blue heron
(Ardea herodias)

White-faced ibis
(Plegadis chihi)

Tundra swan
(Cygnus columbianus)
Trumpeter swan
(Cygnus buccinator)

Greater white-fronted goose
(Anser albifrons)
Snow goose
(Chen caerulescens)
Ross' goose
(Chen rossii)
Canada goose
(Branta canadensis)

Wood duck
(Aix sponsa)
Green-winged teal
(Anas crecca)
Mallard
(Anas platyrhynchos)
Northern pintail
(Anas acuta)
Blue-winged teal
(Anas discors)
Cinnamon teal
(Anas cyanoptera)
Northern shoveler
(Anas clypeata)
Gadwall
(Anas strepera)
Gargany
(Anas querquedula)
American wigeon
(Anas americana)

Eurasian wigeon
(Anas penelope)
Canvasback
(Aythya valisineria)
Redhead
(Aythya americana)
Ring-necked duck
(Aythya collaris)
Lesser scaup
(Aythya affinis)
White-winged scoter
(Melanitta fusca)
Surf scoter
(Melanitta perspicillata)
Oldsquaw
(Clangula hyemalis)
Common goldeneye
(Bucephala clangula)
Barrow's goldeneye
(Bucephala islandica)
Bufflehead
(Bucephala albeola)
Hooded merganser
(Lophodytes cucullatus)
Common merganser
(Mergus merganser)
Red-breasted merganser
(Mergus serrator)
Ruddy duck
(Oxyura jamaicensis)

Turkey vulture
(Cathartes aura)

Sage grouse
(Centrocercus urophasianus)
Gray partridge
(Perdix perdix)
Chukar
(Alectoris chukar)
Ring-necked pheasant
(Phasianus colchicus)
California quail
(Callipepla californica)

Virginia rail
(Rallus limicola)
Sora
(Porzana carolina)
American coot
(Fulica americana)

Sandhill crane
(Grus canadensis)

Black-bellied plover
(Pluvialis squatarola)
Snowy plover
(Charadrius alexandrinus)
Semipalmated plover
(Charadrius semipalmatus)
Killdeer
(Charadrius vociferus)

Black-necked stilt
(Himantopus mexicanus)
American avocet
(Recurvirostra americana)
Greater yellowlegs
(Tringa melanoleuca)
Lesser yellowlegs
(Tringa flavipes)
Solitary sandpiper
(Tringa solitaria)
Willet
(Catoptrophorus semipalmatus)
Spotted sandpiper
(Actitus macularia)
Long-billed curlew
(Numenius americanus)
Marbled godwit
(Limosa fedoa)
Sanderling
(Calidris alba)
Semipalmated sandpiper
(Calidris pusilla)
Western sandpiper
(Calidris mauri)
Least sandpiper
(Calidris minutilla)

Baird's sandpiper
(Calidris bardii)

Dunlin
(Calidris alpina)
Long-billed dowitcher
(Limnodromus scolopaceus)
Common snipe
(Gallinago gallinago)
Wilson's phalarope
(Phalaropus tricolor)
Red-necked phalarope
(Phalaropus lobatus)

Franklin's gull
(Larus pipixcan)
Bonaparte's gull
(Larus philadelphia)
Ring-billed gull
(Larus delewarensis)
California gull
(Larus californicus)

Caspian tern
(Sterna caspia)
Forster's tern
(Sterna forsteri)
Black tern
(Chlidonias niger)

Rock dove
(Columba livia)
Band-tailed pigeon
(Columba fasciata)
Mourning dove
(Zenaida macroura)

Common nighthawk
(Chordeiles minor)
Common poorwill
(Phalaenoptilus nuttallii)

Vaux's swift
(Chaetura vauxi)
White-throated swift
(Aeronautes saxatalis)

Black-chinned hummingbird
(Archilochus alexandri)
Calliope hummingbird
(Stellula calliope)
Broad-tailed hummingbird
(Selasphorus platycercus)
Rufous hummingbird
(Selasphorus rufus)

Belted kingfisher
(Ceryle alcyon)
Lewis' woodpecker
(Melanerpes lewis)
Red-napped sapsucker
(Sphyrapicus nuchalis)
Downey woodpecker
(Picoides pubescens)
Hairy woodpecker
(Picoides villosus)
Northern flicker
(Colaptes auratus)

Western wood-pewee
(Contopus sordidulus)
Willow flycatcher
(Empidonax traillii)
Cordilleran flycatcher
(Empidonax occidentalis)
Say's pheobe
(Sayornis saya)
Ash-throated flycatcher
(Myiarchus cinerascens)
Western knigbird
(Tyrannus verticalis)
Eastern kingbird
(Tyrannus tyrannus)

Horned lark
(Eremophila alpestris)

Purple martin
(Progne subis)
Tree swallow
(Tachycineta bicolor)
Violet-green swallow
(Tachycineta thalassina)

Northern rough-winged swallow
(Stelgidopteryx serripennis)
Bank swallow
(Riparia riparia)
Cliff swallow
(Hirundo pyrrhonota)
Barn swallow
(Hirundo rustica)

Blue jay
(Cyanocitta cristata)
Steller's jay
(Cyanocitta stelleri)
Black-billed magpie
(Pica pica)
American crow
(Corvus brachyrhynchos)
Common raven
(Corvus corax)

Black-capped chickadee
(Parus atricapillus)
Mountain chickadee
(Parus gambeli)
Bushtit
(Psaltriparus minimus)
Red-breasted nuthatch
(Sitta canandensis)
Brown creeper
(Certhia americana)

Rock wren
(Salpinctes obsoletus)
Canyon wren
(Catherpes mexicanus)
House wren
(Troglodytes aedon)
Winter wren
(Troglodytes troglodytes)
Bewick's wren
(Thryomanes bewickii)
Marsh wren
(Cistothorus palustris)

Golden-crowned kinglet
(Regulus satrapa)

Ruby-crowned kinglet
(Regulus calendula)

Mountain bluebird
(Sialia currucoides)
Townsend's solitaire
(Myadestes townsendi)
Hermit thrush
(Catharus guttatus)
American robin
(Turdus migratorius)
Varied thrush
(Ixoreus naevius)

Northern mockingbird
(Mimus polyglottos)
Sage thrasher
(Oreoscoptes montanus)

American pipit
(Anthus rubescens)

Bohemian waxwing
(Bombycilla garrulus)
Cedar waxwing
(Bombycilla cedrorum)

Northern shrike
(Lanius excubitor)
Loggerhead shrike
(Lanius ludovicianus)

European starling
(Sturnus vulgaris)

Solitary vireo
(Vireo solitarius)
Warbling vireo
(Vireo gilvus)
Red-eyed vireo
(Vireo olivaceus)

Orange-crowned warbler
(Vermivora celata)
Nashville warbler
(Vermivora ruficapilla)

Yellow warbler
(Dendroica petechia)
Yellow-rumped warbler
(Dendroica coronata)
Townsend's warbler
(Dendroica townsendi)
American redstart
(Setophaga ruticilla)
Ovenbird
(Seiurus aurocapillus)
MacGillivray's warbler
(Oporornis tolmiei)
Common yellowthroat
(Geothlypis trichas)
Wilson's warbler
(Wilsonia pusilla)
Yellow-breasted chat
(Icteria virens)

Western tanager
(Piranga ludoviciana)

Black-headed grosbeak
(Pheucticus melanocephalus)
Lazuli bunting
(Passerina amoena)
Green-tailed towhee
(Pipilo chlorurus)

Rufous-sided towhee
(Pipilo erythrophthalmus)
Grasshopper sparrow
(Ammodramus savannarum)
American tree sparrow
(Spizella arborea)
Chipping sparrow
(Spizella passerina)
Brewer's sparrow
(Spizella breweri)
Lark sparrow
(Chondestes grammacus)
Black-throated sparrow
(Amphispiza bilineata)
Sage sparrow
(Amphispiza belli)

Vesper sparrow
(Pooecetes gramineus)
Savannah sparrow
(Passerculus sandwichensis)
Harris sparrow
(Zonotrichia querula)
Fox sparrow
(Passerella iliaca)
Song sparrow
(Melospiza melodia)
Lincoln's sparrow
(Melospiza lincolnii)
White-crowned sparrow
(Zonotrichia leucophrys)
Dark-eyed junco
(Junco hyemalis)
Snow bunting
(Plectrophenax nivalis)

Bobolink
(Dolichonyx oryzivorus)
Red-winged blackbird
(Agelaius phoeniceus)
Western meadowlark
(Sturnella neglecta)
Yellow-headed blackbird
(Xanthocephalus xanthocephalus)

Brewer's blackbird
(Euphagus cyanocephalus)
Common grackle
(Quiscalus quiscula)

Brown-headed cowbird
(Molothrus ater)
Northern oriole
(Icterus galbula)

Gray-crowned rosy finch
(Leucosticte tephrocotis)
Black rosy finch
(Leucosticte atrata)
Lesser goldfinch
(Carduelis psaltria)
Pine siskin
(Carduelis pinus)

American goldfinch
(Carduelis tristis)
Evening grosbeak
(Coccothraustes vespertina)

House sparrow
(Passer domesticus)

Appendix E. Fish Occurring in the NCA

Red-band trout
(Oncorhynchus mykiss)
Rainbow trout
(Oncorhynchus mykiss)
Brown trout
(Salmo trutta)
Mountain whitefish
(Prosopium williamsoni)
White sturgeon
(Acipenser transmontanus)
Carp
(Cyprinus carpio)
Chiselmouth
(Acrocheilus alutaceus)
Peamouth
(Mylocheilus caurinus)
Northern squawfish
(Ptychocheilus oregonensis)
Longnose dace
(Rhinichthys cataractea)
Speckled dace
(Rhinichthys osculus)
Redside shiner
(Richardsonius balteatus)
Bridgelip sucker
(Catostomus columbianus)
Largescale sucker
(Catostomus macrocheilus)
Brown bullhead
(Ictalurus nebulosus)
Channel catfish
(Ictalurus punctatus)
Flathead catfish
(Pylodictus olivaris)
Pumpkinseed
(Lepomis gibbosus)
Warmouth
(Lepomis gulosus)
Bluegill
(Lepomis macrochirus)
Smallmouth bass
(Micropterus dolomieui)
Largemouth bass
(Micropterus salmoides)
Black crappie
(Pomoxis nigromaculatus)
Mottled sculpin
(Cottus bairdi)
Piute sculpin
(Cottus beldingi)
Shorthead sculpin
(Cottus confusus)
Yellow perch
(Perca flavescens)

Appendix F. Reptiles and Amphibians Occurring in the NCA

REPTILES: SNAKES

Western rattlesnake
(Crotalus viridis)
Great Basin gopher snake
(Pituophis canifer)
Striped whipsnake
(Masticophis taeniatus)
Racer
(Coluber constrictor)
Rubber boa
(Charina bottae)
Longnose snake
(Rhinocheilus lecontei)
Night snake
(Hypsiglena torquata)
Western terrestrial
garter snake
(Thamnophis elegans)
Common garter snake
(Thamnophis sirtalis)
Ground snake
(Sonora semiannulata)

REPTILES: LIZARDS

Mojave black-collared lizard
(Crotaphytus bicinctores)
Longnose leopard lizard
(Gambelia wislizenii)
Western whiptail
(Cnemidophorus tigris)
Desert horned lizard
(Phrynosoma platyrhinos)
Short-horned lizard
(Phrynosoma douglasii)
Western fence lizard
(Sceloporus occidentalis)
Sagebrush lizard
(Sceloporus graciosus)
Side-blotched lizard
(Uta stansburiana)

AMPHIBIANS

Great Basin spadefoot
(Spea intermontana)
Western toad
(Bufo boreas)
Woodhouse's toad
(Bufo woodhousii)
Western chorus frog
(Pseudacris triseriata)
Pacific chorus frog
(Pseudacris regilla)
Northern leopard frog
(Rana pipiens)
Bullfrog
(Rana catesbeiana)

Moose
(Alces alces)
Elk
(Cervus elaphus)
White-tailed deer
(Odocoileus virginianus)
Mule deer
(Odocoileus hemionus)

Coyote
(Canis latrans)
Red fox
(Vulpes vulpes)

River otter
(Lutra canadensis)
Badger
(Taxidea taxus)
Eastern spotted skunk
(Spilogale putorius)
Striped skunk
(Mephitis mephitis)
Mink
(Mustela vison)
Long-tailed weasel
(Mustela frenata)

Racoon
(Procyon lotor)

Bobcat
(Felis rufus)
Mountain lion
(Felis concolor)

Black-tailed jackrabbit
(Lepus californicus)
Nuttall's cottontail
(Sylvilagus nuttallii)
Pygmy rabbit
(Brachylagus idahoensis)

Beaver
(Castor canadensis)
Porcupine
(Erethizon dorsatum)
Yellow-bellied marmot
(Marmota flaviventris)
Townsend's pocket gopher
(Thomomys townsendii)
Northern pocket gopher
(Thomomys talpoides)
Townsend's ground squirrel
(Spermophilus townsendii)
Belding's ground squirrel
(Spermophilus beldingi)
Muskrat
(Ondatra zibethicus)
Bushy-tailed woodrat
(Neotoma cinerea)
Desert woodrat
(Neotoma lepida)
Norway rat
(Rattus norvegicus)
White-tailed antelope squirrel
(Ammospermophilus leucurus)
Least chipmunk
(Tamias minimus)
Great Basin pocket mouse
(Perognathus parvus)
Ord's kangaroo rat
(Dipodomys ordii)
Chisel-toothed kangaroo rat
(Dipodomys microps)
Big brown bat
(Eptesicus fuscus)
Pallid bat
(Antrozous pallidus)
Western harvest mouse
(Reithrodontomys megalotis)
Deer mouse
(Peromyscus maniculatus)
Canyon mouse
(Peromyscus crinitus)

Northern grasshopper mouse
(Onochomys leucogaster)
House mouse
(Mus musculus)

Montane vole
(Microtus montanus)
Meadow vole
(Microtus pennsylvanicus)
Sagebrush vole
(Lemmiscus curtatus)

Vagrant shrew
(Sorex vagrans)

Spotted bat
(Euderma maculatum)
Townsend's big-eared bat
(Plecotus townsendii)
Western pipistrelle
(Pipistrellus hesperus)
Little brown myotis
(Myotis lucifugus)
Yuma myotis
(Myotis yumanensis)
California myotis
(Myotis californicus)
Eastern small-footed myotis
(Myotis leibii)
Long-legged myotis
(Myotis volans)
Big brown bat
(Eptisicus fuscus)
Pallid bat
(Antrozous pallidus)

Appendix H. Animal Species of Special Concern

SPECIES	STATUS	HABITAT
Longnose snake (Rhinocheilus lecontei)	SS	many desert areas
Ground snake (Sonora semiannulata)	SS	talus slopes
Night snake (Hypsiglena torquata)	SS	rocky areas
White-faced ibis (Plegadis chihi)	C2	marsh, irrigated field, pond
Trumpeter swan (Cygnus buccinator)	C2	open water, marsh
Bald eagle (Haliaeetus leucocephalus)	E	open water, marsh, desert
Northern goshawk (Accipiter gentilis)	C2	riparian, forest
Swainson's hawk (Buteo swainsoni)	SS	farm, riparian, desert
Ferruginous hawk (Buteo regalis)	C2	desert, farm, riparian
Merlin (Falco columbarius)	SS	open field, riparian
Peregrine falcon (Falco peregrinus)	E	canyon, open areas
Gyrfalcon (Falco rusticolus)	S	desert, farm
Long-billed curlew (Numenius americanus)	S	open grassland, farm, marsh
Black tern (Chlidonias niger)	C2	marsh, open water
Burrowing owl (Speotyto cunicularia)	SS	desert, farm
Loggerhead shrike (Lanius ludovicianus)	C2	desert shrub, riparian
Spotted bat (Euderma maculatum)	C2	canyon, riparian
Townsend's big eared bat (Plecotus townsendii)	C2	caves, desert, riparian, canyon
Pygmy rabbit (Brachylagus idahoensis)	C2	big sagebrush, greasewood
River otter (Lutra canadensis)	SS	river, reservoir, marsh

Idaho dunes tiger beetle (Cicindela arenicola)	C2	sand dunes
Idaho springsnail (Fontelicella idahoensis)	E	river
Mojave black-collared lizard (Crotaphytus bicinctores)	SS	rocky outcrops, talus
American white pelican (Pelecanus erythrorhynchos)	SS	river, reservoir

Status Key:

E - Endangered: Species in danger of extinction throughout all or a significant portion of their range

T - Threatened: Species likely to be classified as endangered within the foreseeable future throughout all or a portion of their range.

C2 - Federal Candidate 2: Listing as threatened or endangered may be appropriate, but the United States Fish and Wildlife Service lacks sufficient data to support such action.

SS - State Sensitive: Species designated by the BLM State Director and IDF&G Director that should be managed to keep them from being listed.

Appendix I. Species of Special Concern that Need Further Study

PLANTS

Esteve false yarrow
(Chaenactis stevioides)

Matted cowpie buckwheat
(Eriogonum shockleyi shockleyi)

Packard's cowpie buckwheat
(Eriogonum shockleyi packardiae)

White-margined wax plant
(Glyptopleura marginata)

Slick-spot peppergrass
(Lepidium papilliferum)

Torrey's blazing star
(Mentzelia torreyi acerosa)

Turtle-back
(Psathyrotes annua)

American wood sage
(Teucrium canadense occidentale)

Woven-spore lichen
(Texosporium sancti-Jacobi)

ANIMALS

Longnose snake
(Rhinocheilus lecontei)

Night snake
(Hypsiglena torquata)

Ground snake
(Sonora seminannulata)

Spotted bat
(Euderma maculatum)

Townsend's big eared bat
(Plecotus townsendii)

Pygmy rabbit
(Brachylagus idahoensis)

Idaho dunes tiger beetle
(Cicindela arenicola)

Idaho springsnail
(Fontelicella idahoensis)

Appendix J. Grazing Allotments in the NCA

ALLOT. NO.	NAME	LIVESTOCK[1] AUMs	SEASON OF USE	KIND OF LIVESTOCK
Bruneau Resource Area				
801(p)[2]	Castle Creek	256	11/01 - 1/31	Cattle
802(p)	Battle Creek	200[3]	4/01 - 4/31	Cattle
806	Pole Creek Ind.	156	10/01 - 1/31	Cattle
813(p)	Mountain Home Sub-Unit	4,260	4/01 - 6/30	Cattle
			11/01 - 12/30	
821	Chalk Flat	2,511	4/01 - 6/30	Cattle
			10/16 - 12/31	
825	Sunnyside Spring/Fall	21,309	4/01 - 6/30	Cattle,Sheep
			10/16 - 12/15	
826	Sunnyside Winter	14,361	12/16 - 2/28	Cattle,Sheep
827(p)	Rattlesnake Seeding	1,386	12/16 - 2/28	Cattle
828	Crater Ring Seeding	650	4/01 - 6/05	Cattle
834	Rattlesnake Creek	220	4/01 - 6/05	Cattle
			10/01 - 11/16	
837	Rabbit Springs	84	4/01 - 9/30	Cattle
839	Melba Seeding	333	4/01 - 6/30	Cattle
			11/01 - 12/15	
875	Chattin Hill	844	2/01 - 2/28	Cattle
1035	Hammett No. 3	240	9/15 - 3/15	Cattle
Owyhee Resource Area				
517(p)	Rabbit Crk./Peters Gulch	90	4/01 - 5/31	Cattle
535(p)	Fossil Butte	800	10/01 - 2/28	Cattle,Horses
569(p)	Silver City	50	4/01 - 5/31	Cattle,Horses
571(p)	Con Shea	1,250	11/01 - 2/28	Cattle
578	Sinker Butte	707	11/15 - 2/28	Cattle
654	Montini FFR[4]	140	1/01 - 12/31	Cattle
487(p)	Joyce FFR	10	1/01 - 12/31	Cattle

Jarbidge Resource Area

1052(p)	Bruneau Arm	630	11/01 - 2/28	Cattle,Horses
1057(p)	Bruneau Hills	311	10/15 - 4/15	Cattle
1053(p)	Browns Gulch	784	12/01 - 3/31	Cattle
1060	Flat Iron	254	4/15 - 10/15	Cattle
1137(p)	West Saylor Creek	238	3/15 - 12/30	Cattle,Sheep

Cascade Resource Area

386(p)	White Butte FFR	66	3/01 - 4/15 11/15 - 2/28	Cattle

[1]AUM's were calculated on the percentage of the allotment located within the NCA.

[2]Denotes allotments only partially located within the NCA.

[3]This portion of the Battlecreek Allotment is not currently grazed.

[4]Fenced Federal Range. Small, isolated parcels of federal land surrounded by and fenced in with larger parcels of private land.

Appendix K. Mineral Material Sites in the NCA as of June 1, 1994

Community Pits [8]

SERIAL #	LEGAL DESC.	OPERATOR	MATERIAL[9]	ACRES
IDI-03313	T5S,R3E, S12	Elmore County Pit	S&G	17.5
IDI-22115	T5S,R8E, S33	Hammett Pit	S&G	10.0
IDI-22816	T1N,R1W, S29	Robinson Road Pit	C	20.0
IDI-27027	T6S,R4E, S11	Little Valley Pit[10]	Clay	5.0
IDI-28873	T4S,R4E, S31	Chattin Hill Pit	Clay	5.0

Mineral Material Sales or Free Use Permits [11]

SERIAL #	LEGAL DESC.	OPERATOR	MATERIAL	ACRES
IDI-25665	T2S,R4E, S28	Idaho Military Div	C	40.0
IDI-25882	T3S,R2E, S14	Idaho Military Div	C	80.0
IDI-25883	T1S,R2E, S34	Idaho Military Div	C	10.0
IDI-25884	T3S,R4E, S05	Idaho Military Div	C	87.0
IDI-27492	T3S,R1W, S22	Idaho Transp Dept	S&G	5.0
IDI-27694	T4S,R2E, S30	Owyhee Co. Rd & Brdg	S&G	36.04
IDI-27899	T5S,R6E, S28	Glenns Ferry Hwy Dist	S&G	4.0
IDI-28102	T4S,R2E, S34	Owyhee Co. Rd & Brdg	S&G	10.0
IDI-28119	T4S,R1E, S25	Idaho Transp Dept	S&G	30.0
IDI-28204	T4S,R2E, S34	Grand View Irrig Dist	S&G	10.0
IDI-28241	T3S,R2W, S26	Owyhee Co. Rd & Brdg	S&G	10.0
IDI-28488	T4S,R7E, S14,15	Idaho Transp Dept	S&G	50.0

IDI-28640	T6S,R4E, S11	Owyhee County	S&G	5.0
IDI-28722	T1N,R1W, S11	Ada Co. Hwy Dist	S&G	40.0
IDI-29289	T3S,R4E, S05	Mtn Home Hwy Dist	S&G	5.0
IDI-29582	T6S,R6E, S07	Ashby Construction	S&G	0.01
IDI-29630	T5S,R3E, S12	Mtn Home Hwy Dist	S&G	5.0
IDI-29822	T6S,R6E, S07	Owyhee Co Rd & Brdg	S&G	10.0
IDI-29996	T6S,R6E, S07	Idaho Fish & Game	S&G	10.0
IDI-30087	T4S,R7E, S14,15	Elmore Co.	S&G	50.0
IDI-30100	T5S,R8E, S23	Idaho Transp Dept	S&G	40.0

[8]Community pits are designated to allow over-the-counter sales to the general public of small quantities of various mineral materials located in the respective pits without the need for an environmental analysis of each specific sale.

[9]C = Cinders; S&G = Sand and Gravel

[10]Pit is inactive pending clearance of an existing overlapping mining claim.

[11]Disposal of mineral materials from these sites is limited to the specific entity who is granted the mineral material sale or free use permit.

Appendix L. Summary of Fire Occurrences in the NCA, 1980 through 1994

YEAR	# of FIRES	CAUSE HUMAN	CAUSE LGHTG	ACRES BLM	ACRES OTHER	ACRES TOTAL	ACRES REBURN	COST/ ACRE
1980	11	9	2	1737	76	1813	0	$28.05
1981	28	24	4	58272	10110	68382	1000	$3.00
1982	23	12	11	12277	6041	18318	2040	$8.72
1983	28	17	11	60312	13499	73811	17755	$3.56
1984	33	27	6	45212	25518	70730	38295	$3.38
1985	23	16	7	25174	8489	33663	7442	$3.04
1986	27	20	7	19320	7440	26760	20646	$4.27
1987	38	21	17	37887	47798	85685	77963	$3.97
1988	13	12	1	563	144	707	128	$106.85
1989	13	7	6	794	6209	7003	138	$19.14
1990	7	7	0	24	303	327	2	$28.83
1991	5	5	0	2230	817	3047	2300	$19.00
1992	7	6	1	911	98	1009	719	$21.00
1993	12	10	2	146	269	415	30	$24.10
1994	10	8	2	1329	0	1329	799	$12.20
	278	201	77	266,188	126,811	392,999	169,257	$4.58 (ave.)
		72%	28%	68%	32%		43%	

SNAKE RIVER BIRDS OF PREY NATIONAL CONSERVATION AREA

PUBLIC LAW 103-64—AUG. 4, 1993
103d Congress

An Act

To establish the Snake River Birds of Prey National Conservation Area in the State of Idaho, and for other purposes.

Be it enacted by the Senate and House of Representatives of United States of America in Congress assembled,

SECTION 1. FINDINGS.

The Congress finds the following:

(1) The public lands managed by the Bureau of Land Management in the State of Idaho within the Snake River Birds of Prey Area contain one of the densest known nesting populations of eagles, falcons, owls, hawks, and other birds of prey (raptors) in North America.

(2) These public lands constitute a valuable national biological and educational resource since birds of prey are important components of the ecosystem and indicators of environmental quality, and contribute significantly to the quality of wildlife and human communities.

(3) These public lands also contain important historic and cultural resources (including significant archaeological resources) as well as other resources and values, all of which should be protected and appropriately managed.

(4) A military training area within the Snake River Birds of Prey Area, known as the Orchard Training Area, has been used since 1953 by reserve components of the Armed Forces. Military use of this area is currently governed by a Memorandum of Understanding between the Bureau of Land Management and the State of Idaho Military Division, dated May 1985. Operating under this Memorandum of Understanding, the Idaho National Guard has provided valuable assistance to the Bureau of Land Management with respect to fire control and other aspects of management of the Orchard Training Area and the other lands in the Snake River Birds of Prey Area. Military use of the lands within the Orchard Training Area should continue in accordance with such Memorandum of Understanding (or extension or renewal thereof), to the extent consistent with section 4(e) of this Act, because this would be in the best interest of training of the reserve components (an important aspect of national security) and of the local economy.

(5) Protection of the conservation area as a home for raptors can best and should be accomplished by the Secretary of the Interior, acting through the Bureau of Land Management, under a management plan that—

(A) emphasizes management, protection, and rehabilitation of habitat for these raptors and of other resources and values of the area;

(B) provides for continued military use, consistent with the requirements of section 4(e) of this Act, of the Orchard Training Area by reserve components of the Armed Forces;

(C) addresses the need for public educational and interpretive opportunities;

(D) allows for diverse appropriate uses of lands in the area to the extent consistent with the maintenance and enhancement of raptor populations and habitats and protection and sound management of other resources and values of the area; and

(E) demonstrates management practices and techniques that may be useful to other areas of the public lands and elsewhere.

(6) There exists near the conservation area a facility, the World Center for Birds of Prey operated by The Peregrine Fund, Inc., where research, public education, recovery, and reestablishment operations exist for endangered raptor species. There also exists at Boise State University a raptor study program which attracts national and international graduate and undergraduate students.

(7) The Bureau of Land Management and Boise State University, together with other State, Federal, and private entities, have formed the Raptor Research and Technical Assistance Center to be housed at Boise State University, which provides a unique adjunct to the conservation area for raptor management, recovery, research, and public visitation, interpretation, and education.

(8) Consistent with requirements of sections 202 and 302 of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1712 and 1732), the Secretary has developed a comprehensive management plan and, based on such plan, has implemented a management program for the public lands included in the conservation area established by this Act.

(9) Additional authority and guidance must be provided to assure that essential raptor habitat remains in public ownership, to facilitate sound and effective planning and management, to provide for effective public interpretation and education, to ensure continued study of the relationship of humans and these raptors, to preserve the unique and irreplaceable habitat of the conservation area, and to conserve and properly manage the other natural resources of the area in concert with maintenance of this habitat.

(10) An ongoing research program funded by the Bureau of Land Management and the National Guard is intended to provide information to be used in connection with future decisionmaking concerning management of all uses, including continued military use, of public lands within the Snake River Birds of Prey Area.

(11) Public lands in the Snake River Birds of Prey Area have been used for domestic livestock grazing for more than a century, with resultant benefits to community stability and contributions to the local and State economies. It has not been demonstrated that continuation of this use would be incompatible with appropriate protection and sound management of raptor habitat and the other resource values of these lands; therefore, subject to the determination provided for in section 4(f), it is expected that such grazing will continue in accordance with applicable regulations of the Secretary and the management plan for the conservation area.

(12) Hydroelectric facilities for the generation and transmission of electricity exist within the Snake River Birds of Prey Area pursuant to a license(s) issued by the Federal Energy Regulatory Commission, or its predecessor, the Federal Power Commission.

SEC. 2. DEFINITIONS.

As used in this Act:

(1) The term "Secretary" means the Secretary of the Interior.

(2) The term "conservation area" means the Snake River Birds of Prey National Conservation Area established by section 3.

(3) The term "raptor" or "raptors" means individuals or populations of eagles, falcons, owls, hawks, and other birds of prey.

(4) The term "raptor habitat" includes the habitat of the raptor prey base as well as the nesting and hunting habitat of raptors within the conservation area.

(5) The term "Memorandum of Understanding" means the Memorandum of Understanding #ID-237, dated May 1985, between the State of Idaho Military Division and the Bureau of Land Management.

(6) The term "Orchard Training Area" means that area generally so depicted on the map referred to in section 3(b), and as described in the Memorandum of Understanding as well as the air space over the same.

(7) The term "Impact Area" means that area which was used for the firing of live artillery projectiles and is used for live fire ranges of all types and, therefore, poses a danger to public safety and which is generally so depicted on the map referred to in section 3(b).

(8) The term "Artillery Impact Area" means that area within the Impact Area into which live projectiles are fired which is generally described as that area labeled as such on the map referred to in section 3(b).

(9) The term "the plan" means the comprehensive management plan developed for the conservation area, dated August 30, 1985, together with such revisions thereto as may be required in order to implement this Act.

(10) The term, "hydroelectric facilities" means all facilities related to the generation, transmission, and distribution of hydroelectric power and which are subject to, and authorized by, a license(s), and any and all amendments thereto, issued by the Federal Energy Regulatory Commission.

SEC. 3. ESTABLISHMENT OF NATIONAL CONSERVATION AREA.

(a) ESTABLISHMENT AND PURPOSES.—(1) There is hereby established the Snake River Birds of Prey National Conservation Area (hereafter referred to as the "conservation area").

(2) The purposes for which the conservation area is established, and shall be managed, are to provide for the conservation, protection, and enhancement of raptor populations and habitats and the natural and environmental resources and values associated therewith, and of the scientific, cultural, and educational resources and values of the public lands in the conservation area.

(3) Subject to the provisions of subsection (d) of this section and section 4, uses of the public lands in the conservation area existing on the date of enactment of this Act shall be allowed to continue.

(b) AREA INCLUDED.—The conservation area shall consist of approximately 482,457 acres of federally owned lands and interests therein managed by the Bureau of Land Management as generally depicted on the map entitled "Snake River Birds of Prey National Conservation Area", dated November 1991.

(c) MAP AND LEGAL DESCRIPTION.—As soon as is practicable after enactment of this Act, the map referred to in subsection (b) and a legal description of the conservation area shall be filed by the Secretary with the Committee on Natural Resources of the House of Representatives and the Committee on Energy and Natural Resources of the Senate. Each such map shall have the same force and effect as if included in this Act; except that the Secretary may correct clerical and typographical errors in such map and legal description. Each such map shall be on file and available for public inspection in the office of the Director and the Idaho State Director of the Bureau of Land Management of the Department of the Interior.

(d) WITHDRAWALS.—Subject to valid existing rights, the Federal lands within the conservation area are hereby withdrawn from all forms of entry, appropriation, or disposal under the public land laws; and from entry, application, and selection under the Act of March 3, 1877 (Ch. 107, 19 Stat. 377, 43 U.S.C. 321 et seq.; commonly referred to as the "Desert Lands Act"), section 4 of the Act of August 18, 1894 (Ch. 301, 28 Stat. 422; 43 U.S.C. 641; commonly referred to as the "Carey Act"), the Act of July 3, 1890 (Ch. 656, 26 Stat. 215- commonly referred to as the "State of Idaho Admissions Act"), section 2275 of the Revised Statutes, as amended (43 U.S.C. 851), and section 2276 of the Revised Statutes, as amended (43 U.S.C. 852). The Secretary shall return to the applicants any such applications pending on the date of enactment of this Act, without further action. Subject to valid existing rights, as of the date of enactment of this Act, lands within the Birds of Prey Conservation Area are withdrawn from location under the general mining laws, the operation of the mineral and geothermal leasing laws, and the mineral material disposal laws, except that mineral materials subject to disposal may be made available from existing sites to the extent compatible with the purposes for which the conservation area is established.

SEC. 4. MANAGEMENT AND USE.

(a) IN GENERAL.—(1)(A) Within 1 year after the date of enactment of this Act, the Secretary shall make any revisions in the existing management plan for the conservation area as necessary to assure its conformance with this Act, and no later than January 1, 1996, shall finalize a new management plan for the conservation area.

(B) Thereafter, the Secretary shall review the plan at least once every 5 years and shall make such revisions as may be necessary or appropriate.

(C) In reviewing and revising the plan, the Secretary shall provide for appropriate public participation.

(2) Except as otherwise specifically provided in section 3(d) and subsections (d), (e), and (f) of this section, the Secretary shall allow only such uses of lands in the conservation

area as the Secretary determines will further the purposes for which the Conservation Area is established.

(b) MANAGEMENT GUIDANCE.—After each review pursuant to subsection (a), the Secretary shall make such revisions as may be needed so that the plan and management program to implement the plan include, in addition to any other necessary or appropriate provisions, provisions for—

(1) protection for the raptor populations and habitats and the scientific, cultural, and educational resources and values of the public lands in the conservation area;

(2) identifying levels of continued military use of the Orchard Training Area compatible with paragraph (l) of this subsection;

(3) public use of the conservation area consistent with the purposes of this Act;

(4) interpretive and educational opportunities for the public;

(5) a program for continued scientific investigation and study to provide information to support sound management in accordance with this Act, to advance knowledge of raptor species and the resources and values of the conservation area, and to provide a process for transferring to other areas of the public lands and elsewhere this knowledge and management experience;

(6) such vegetative enhancement and other measures as may be necessary to restore or enhance prey habitat;

(7) the identification of levels, types, timing, and terms and conditions for the allowable nonmilitary uses of lands within the conservation area that will be compatible with the protection, maintenance, and enhancement of raptor populations and habitats and the other purposes for which the conservation area is established; and

(8) assessing the desirability of imposing appropriate fees for public uses (including, but not limited to, recreational use) of lands in the conservation area, which are not now subject to fees, to be used to further the purposes for which the conservation area is established.

(c) VISITORS CENTER.—The Secretary, acting through the Director of the Bureau of Land Management, is authorized to establish, in cooperation with other public or private entities as the Secretary may deem appropriate, a visitors center designed to interpret the history and the geological, ecological, natural, cultural, and other resources of the conservation area and the biology of the raptors and their relationships to man.

(d) VISITORS USE OF AREA.—In addition to the Visitors Center, the Secretary may provide for visitor use of the public lands in the conservation area to such extent and in such manner as the Secretary considers consistent with the protection of raptors and raptor habitat, public safety, and the purposes for which the conservation area is established. To the extent practicable, the Secretary shall make available to visitors and other members of the public a map of the conservation area and such other educational and interpretive materials as may be appropriate.

(e) NATIONAL GUARD USE OF THE AREA.—(1) Pending completion of the ongoing research concerning military use of lands in the conservation area, or until the date 5 years after the date of enactment of this Act, whichever is the shorter period, the Secretary shall permit continued military use of those portions of the conservation area known as the Orchard Training Area in accordance with the Memorandum of

Understanding, to the extent consistent with the use levels identified pursuant to subsection (b)(2) of this section.

(2) Upon completion of the ongoing research concerning military use of lands in the conservation area, the Secretary shall review the management plan and make such additional revisions therein as may be required to assure that it meets the requirements of this Act.

(3) Upon completion of the ongoing research concerning military use of lands in the conservation area, the Secretary shall submit to the Committees on Natural Resources and Merchant Marine and Fisheries of the House of Representatives and the Committee on Energy and Natural Resources of the Senate a report of the results of such research.

(4) Nothing in this Act shall preclude minor adjustment of the boundaries of the Orchard Training Area in accordance with provisions of the Memorandum of Understanding.

(5) After completion of the ongoing research concerning military use of lands in the Orchard Training Area or after the date 5 years after the date of enactment of this Act, whichever first occurs, the Secretary shall continue to permit military use of such lands, unless the Secretary, on the basis of such research, determines such use is not compatible with the purposes set forth in section 3(a)(2). Any such use thereafter shall be permitted in accordance with the Memorandum of Understanding, which may be extended or renewed by the Secretary so long as such use continues to meet the requirements of subsection (b)(2) of this section.

(6) In accordance with the Memorandum of Understanding, the Secretary shall require the State of Idaho Military Division to insure that military units involved maintain a program of decontamination.

(7) Nothing in this Act shall be construed as by itself precluding the extension or renewal of the Memorandum of Understanding, or the construction of any improvements or buildings in the Orchard Training Area so long as the requirements of this subsection are met.

(f) LIVESTOCK GRAZING.—(1) So long as the Secretary determines that domestic livestock grazing is compatible with the purposes for which the conservation area is established, the Secretary shall permit such use of public lands within the conservation area, to the extent such use of such lands is compatible with such purposes. Determinations as to compatibility shall be made in connection with the initial revision of management plans for the conservation area and in connection with each plan review required by section 4(a)(1)(B).

(2) Any livestock grazing on public lands within the conservation area, and activities the Secretary determines necessary to carry out proper and practical grazing management programs on such lands (such as animal damage control activities) shall be managed in accordance with the Act of June 28, 1934 (43 U.S.C. 315 et seq.; commonly referred to as the "Taylor Grazing Act"), section 402 of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1752), other laws applicable to such use and programs on the public lands, and the management plan for the conservation area.

(g) COOPERATIVE AGREEMENTS.—The Secretary is authorized to provide technical assistance to, and to enter into such cooperative agreements and contracts with, the State of Idaho and with local governments and private entities as the Secretary deems necessary or desirable to carry out the purposes and policies of this Act.

(h) AGRICULTURAL PRACTICES.—Nothing in this Act shall be construed as constituting a grant of authority to the Secretary to restrict recognized agricultural practices or other activities on private land adjacent to or within the conservation area boundary.

(i) HYDROELECTRIC FACILITIES.—Notwithstanding any provision of this Act, or regulations and management plans undertaken pursuant to its provisions, the Federal Energy Regulatory Commission shall retain its current jurisdiction concerning all aspects of the continued and future operation of hydroelectric facilities, licensed or relicensed under the Federal Power Act (16 U. S.C. 791a et seq.), located within the boundaries of the conservation area.

SEC. 5. ADDITIONS.

(a) ACQUISITIONS.—(1) The Secretary is authorized to acquire lands and interests therein within the boundaries of the conservation area by donation, purchase with donated or appropriated funds, exchange, or transfer from another Federal agency, except that such lands or interests owned by the State of Idaho or a political subdivision thereof may be acquired only by donation or exchange.

(2) Any lands located within the boundaries of the conservation area that are acquired by the United States on or after the date of enactment of this Act shall become a part of the conservation area and shall be subject to this Act.

(b) PURCHASE OF LANDS.—In addition to the authority in section 318(d) of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1748) and notwithstanding section 7(a) of the Land and Water Conservation Fund Act of 1964 (16 U.S.C. 4601-9(a)), monies appropriated from the Land and Water Conservation Fund may be used as authorized in section 5(b) of the Endangered Species Act of 1973 (16 U.S.C. 1534(b)), for the purposes of acquiring lands or interests therein within the conservation area for administration as public lands as a part of the conservation area.

(c) LAND EXCHANGES.—The Secretary shall, within 4 years after the date of enactment of this Act, study, identify, and initiate voluntary land exchanges which would resolve ownership related land use conflicts within the conservation area.

SEC. 6. OTHER LAWS AND ADMINISTRATIVE PROVISIONS.

(a) OTHER LAWS.—(1) Nothing in this Act shall be construed to supersede, limit, or otherwise affect administration and enforcement of the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.) or to limit the applicability of the National Trails System Act to any lands within the conservation area.

(2) Except as otherwise specifically provided in this Act, nothing in this Act shall be construed as limiting the applicability to lands in the conservation area of laws applicable to public lands generally, including but not limited to the National Historic Preservation Act, the Archaeological Resources Protection Act of 1979, or the Native American Graves Protection and Repatriation Act.

(3) Nothing in this Act shall be construed as by itself altering the status of any lands that on the date of enactment of this Act were not managed by the Bureau of Land Management.

(4) Nothing in this Act shall be construed as prohibiting the Secretary from engaging qualified persons to use public lands within the conservation area for the propagation of plants (including seeds) to be used for vegetative enhancement of the conservation area in accordance with the plan and in furtherance of the purposes for which the conservation area is established.

(b) RELEASE.—The Congress finds and directs that the public lands within the Snake River Birds of Prey Natural Area established as a natural area in October 1971 by Public Land Order 5133 have been adequately studied and found unsuitable for wilderness designation pursuant to section 603 of the Federal Land Policy and Management Act of 1976. Such lands are hereby released from further management pursuant to section 603(c) of such an Act and shall be managed in accordance with other applicable provisions of law, including this Act.

(c) EXISTING ADMINISTRATIVE WITHDRAWAL TERMINATED.—Public Land Orders 5133 dated October 12, 1971, and 5777 dated November 21, 1980, issued by the Secretary are hereby revoked subject to subsections (d)(3) and (d)(4).

(d) WATER.—(1) The Congress finds that the United States is currently a party in an adjudication of rights to waters of the Snake River, including water rights claimed by the United States on the basis of the reservation of lands for purposes of conservation of fish and wildlife and that consequently there is no need for this Act to effect a reservation by the United States of rights with respect to such waters in order to fulfill the purposes for which the conservation area is established.

(2) Nothing in this Act or any action taken pursuant thereto shall constitute either an expressed or implied reservation of water or water rights for any purpose.

(3) Nothing in this Act shall be construed as effecting a relinquishment or reduction of any of the water rights held or claimed by the United States within the State of Idaho or elsewhere on or before the date of enactment of this Act.

(4) The Secretary and all other officers of the United States shall take all steps necessary to protect all water rights claimed by the United States in the Snake River adjudication now pending in the district court of the State of Idaho in which the United States is joined under section 208 of the Act of July 10, 1952 (66 Stat. 560; 43 U.S.C. 666; commonly referred to as the "McCarran Amendment").

SEC. 7. AUTHORIZATION OF APPROPRIATIONS.

There are authorized to be appropriated such sums as may be necessary to carry out this Act.

Approved August 4, 1993.

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Appendix O. Individuals Involved in Writing the Management Plan

Del Bale - Realty Specialist[1]
1971 - B.Arch. Architecture, University of Idaho
Years with BLM - 20
Years with Federal Highway Admin. - 4

Mike Boltz - Rangeland Ecologist[2]
1976 - B.S. Wildlife Management, Washington State University
1979 - M.S. Forest and Range Management, Washington State University
Years with BLM - 15

John Doremus - Wildlife Biologist[1]
1966 - B.S. Biology, College of Idaho
Years with BLM - 20

Deanna Dyer - General Biologist (GIS)[2]
1988 - B.S. Biology, College of Idaho
Years with BLM - 6
Years with National Biological Service - 1

Frank Jenks - Outdoor Recreation Planner[1]
1977 - B.A. Anthropology, University of Toledo
Years with BLM - 17

Steve Jirik - Rangeland Management Specialist[1]
1987 - B.S. Range Resources, University of Idaho
1989 - M.S. Range Resources, University of Idaho
Years with BLM - 6

Nancy Lull - Volunteer Program Coordinator[1]
B.A. - Journalism/Mass Communication, Boise State University (pending)
Years with BLM - 8
Years with National Weather Service - 1

Lois Palmgren - Archaeological Technician[1]
1980 - B.A. Sociology, Boise State University
Years with BLM - 14

Larry Ridenhour - Park Ranger[3]
1988 - B.S. Forestry, North Carolina State University
1993 - M.S. Recreation Management, University of Montana
Years with BLM - 4

Barry Rose - Public Affairs Specialist[2]
1976 - B.A. Journalism, University of Michigan
1979 - M.S. Natural Resources, University of Michigan
Years with BLM - 15

Karen Steenhof - Wildlife Research Biologist[2]
1974 - B.S. Wildlife Biology, Colorado State University
1976 - M.S. Wildlife Ecology, University of Missouri
Years with BLM - 17
Years with National Biological Service - 2

John Sullivan - NCA Manager[3]
1974 - B.S. Range Management, Oregon State University
1980 - M.S. Range Science, Texas Tech University
Years with BLM - 17

Bruce Zoellick - Fisheries Biologist[2]
1981 - B.S. Wildlife Biology, Washington State University
1985 - M.S. Wildlife Ecology, University of Arizona
Years with BLM - 2
Years with U.S. Fish and Wildlife Service - 3

[1]Performs duties within the NCA, as well as other portions of the Bruneau Resource Area.

[2]Not specifically involved in NCA management, but wrote and/or edited specific portions of the management plan.

[3]Assigned full-time to NCA management.

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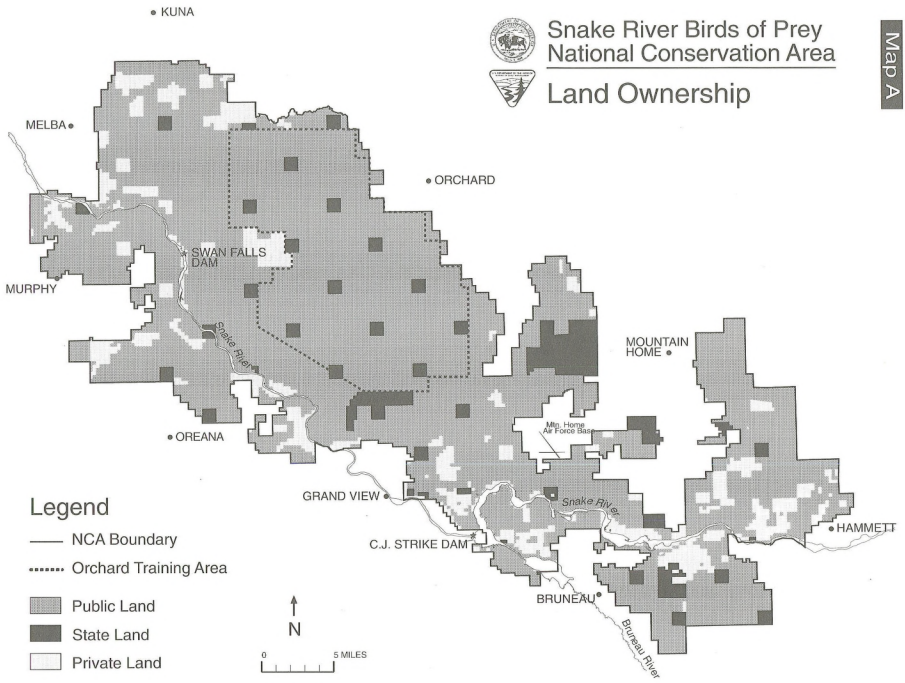
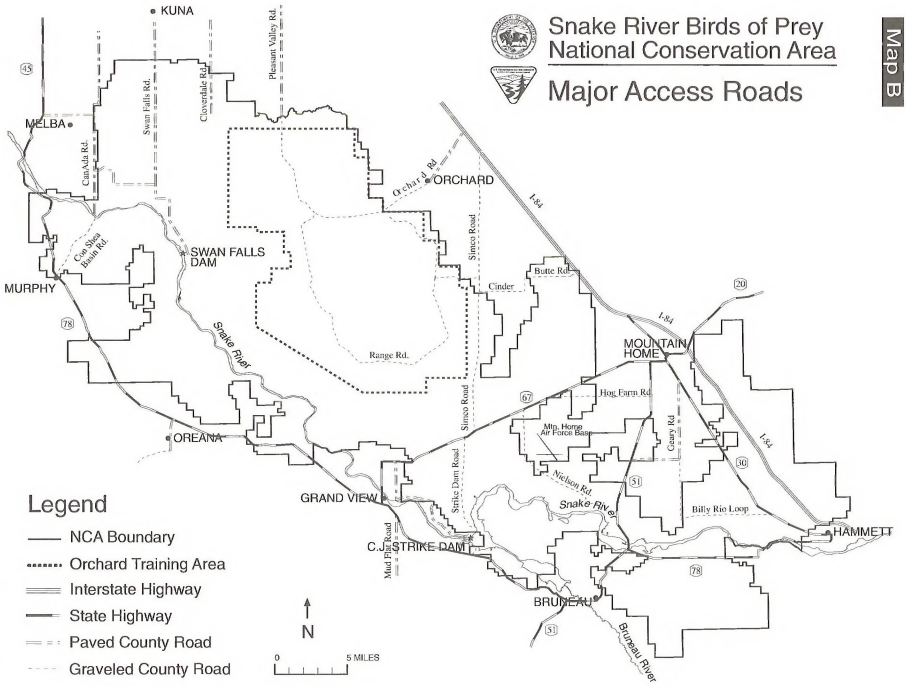
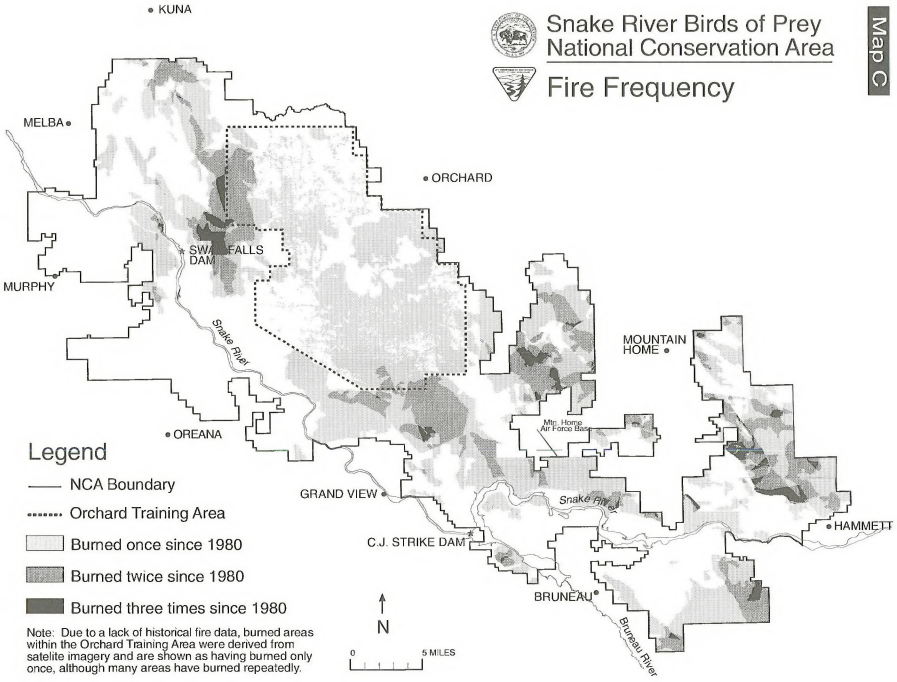
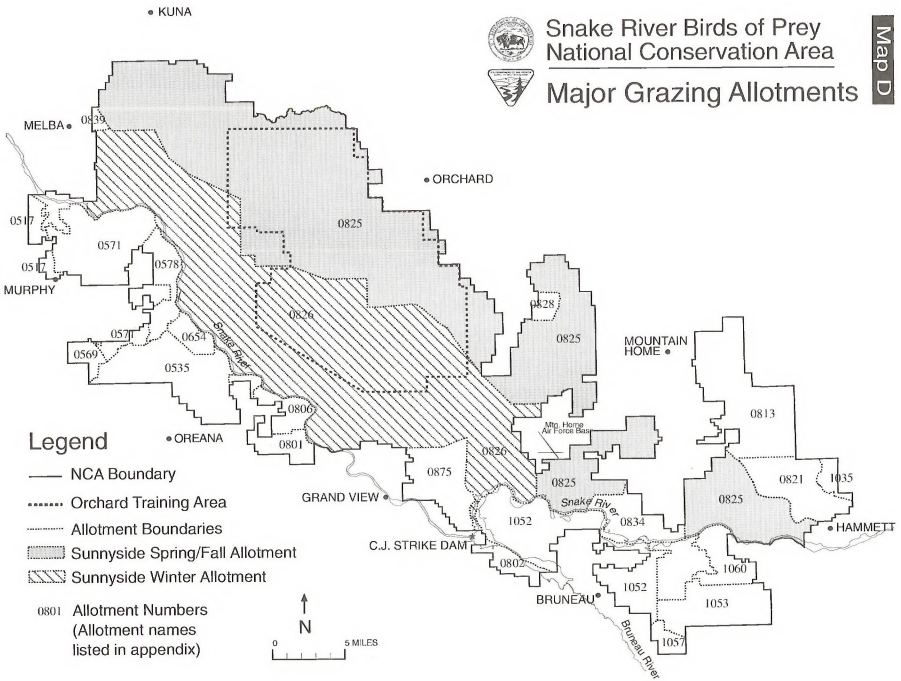
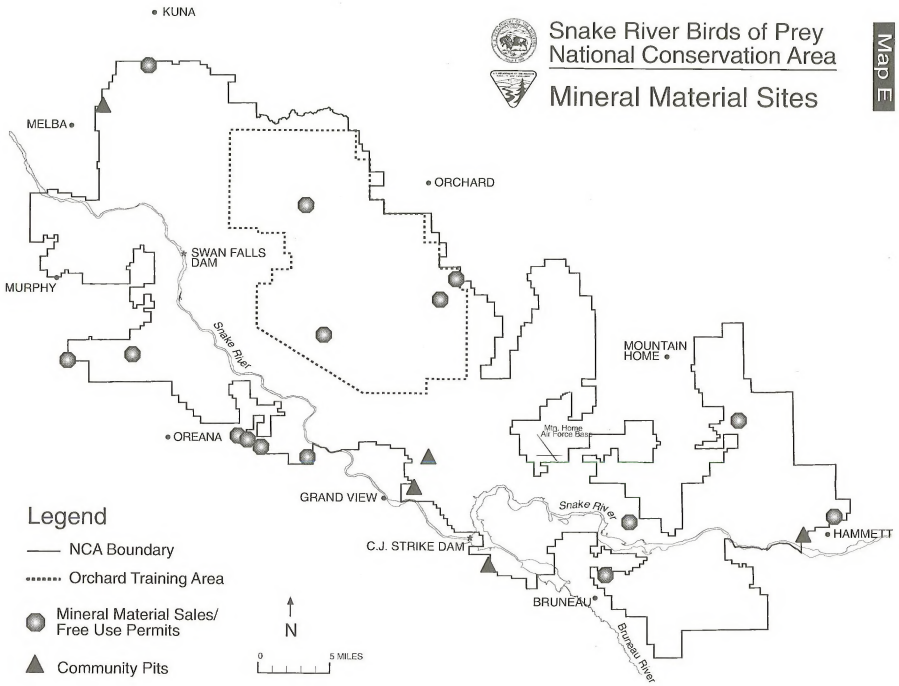
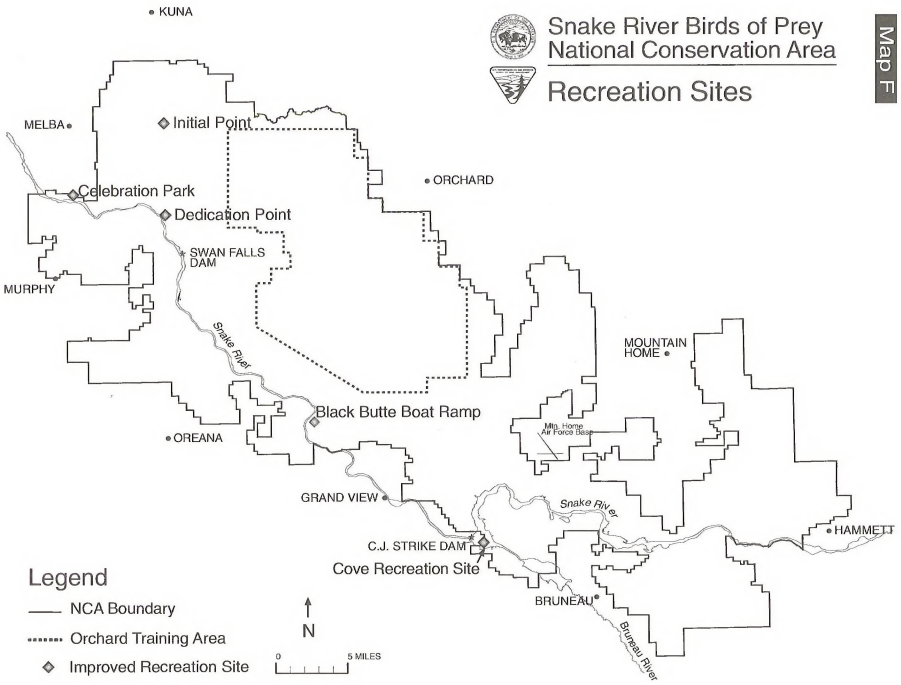

KUNA
Snake River Birds of Prey
National Conservation Area
Land Ownership
Map A
MELBA
ORCHARD
SWAN FALLS
DAM
MURPHY
Snake River
MOUNTAIN
HOME
Mtn. Home
Air Force Base
OREANA
GRAND VIEW
Snake River
HAMMETT
C.J. STRIKE DAM
BRUNEAU
Bruneau River
Legend
NCA Boundary
Orchard Training Area
Public Land
State Land
Private Land
N
0
5 MILES


Snake River Birds of Prey
National Conservation Area
Major Access Roads
Map B
KUNA
MELBA
ORCHARD
SWAN FALLS DAM
MURPHY
OREANA
GRAND VIEW
C.J. STRIKE DAM
BRUNEAU
MOUNTAIN HOME
HAMMETT
Swan Falls Rd.
Cloverdale Rd.
Pleasant Valley Rd.
Can Ada Rd.
Cove Bird Basin Rd.
Orchard Rd.
Simco Road
Cinder Butte Rd.
Range Rd.
Snake River
Strike Dam Road
Mud Flat Road
Hog Farm Rd.
Mtn. Home Air Force Base
Cleary Rd.
Nichols Rd.
Billy Rio Loop
Bruneau River
I-84
45
78
67
20
30
51
Legend
NCA Boundary
Orchard Training Area
Interstate Highway
State Highway
Paved County Road
Graveled County Road
N
0
5 MILES


KUNA
Snake River Birds of Prey
National Conservation Area
Fire Frequency
Map C
MELBA
ORCHARD
SWAN FALLS DAM
MURPHY
Snake River
MOUNTAIN HOME
Mtn. Home Air Force Base
OREANA
GRAND VIEW
Snake River
HAMMETT
C.J. STRIKE DAM
BRUNEAU
Bruneau River
Legend
NCA Boundary
Orchard Training Area
Burned once since 1980
Burned twice since 1980
Burned three times since 1980
Note: Due to a lack of historical fire data, burned areas within the Orchard Training Area were derived from satelite imagery and are shown as having burned only once, although many areas have burned repeatedly.
N
0
5 MILES

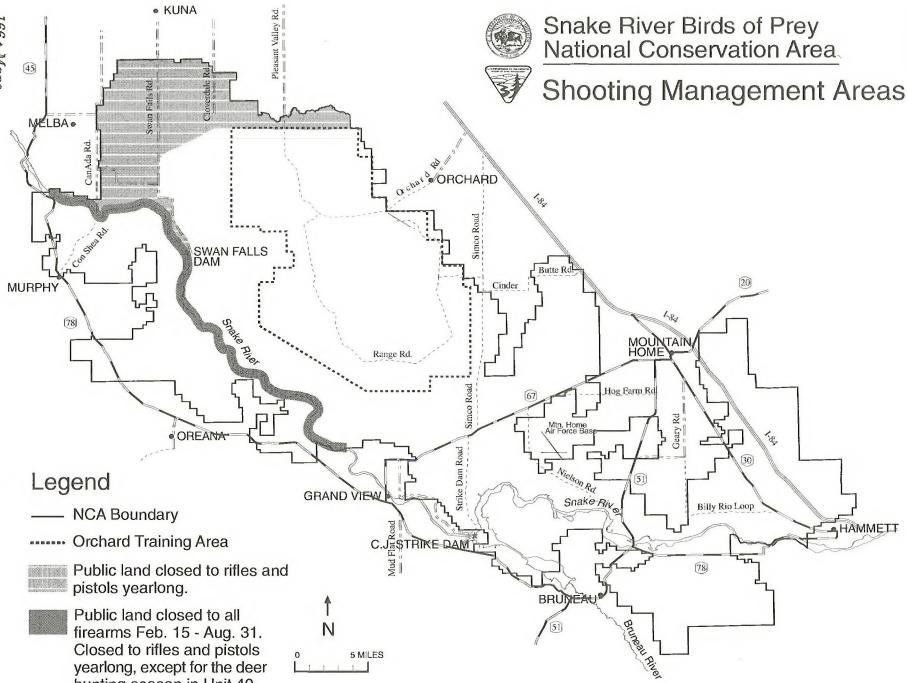

Snake River Birds of Prey
National Conservation Area
Major Grazing Allotments
Map D
KUNA
MELBA
ORCHARD
MURPHY
OREANA
GRAND VIEW
C.J. STRIKE DAM
BRUNEAU
MOUNTAIN HOME
Mtn. Home Air Force Base
HAMMETT
Snake River
Bruneau River
0839
0825
0517
0571
0578
0826
0828
0557
0654
0569
0535
0806
0801
0875
0820
0813
0821
1035
1052
0834
0802
1060
1053
1057
Legend
NCA Boundary
Orchard Training Area
Allotment Boundaries
Sunnyside Spring/Fall Allotment
Sunnyside Winter Allotment
0801 Allotment Numbers (Allotment names listed in appendix)
N
0
5 MILES


KUNA
Snake River Birds of Prey
National Conservation Area
Mineral Material Sites
Map E
MELBA
ORCHARD
SWAN FALLS DAM
MURPHY
Snake River
MOUNTAIN HOME
Mtn. Home Air Force Base
OREANA
GRAND VIEW
Snake River
HAMMETT
C.J. STRIKE DAM
BRUNEAU
Bruneau River
Legend
NCA Boundary
Orchard Training Area
Mineral Material Sales/ Free Use Permits
Community Pits
N
0
5 MILES


KUNA
Snake River Birds of Prey
National Conservation Area
Recreation Sites
Map F
MELBA
Initial Point
ORCHARD
Celebration Park
Dedication Point
SWAN FALLS DAM
MURPHY
Snake River
MOUNTAIN HOME
Black Butte Boat Ramp
Mtn. Home Air Force Base
OREANA
GRAND VIEW
Snake River
HAMMETT
C.J. STRIKE DAM
Cove Recreation Site
BRUNEAU
Bruneau River
Legend
NCA Boundary
Orchard Training Area
Improved Recreation Site
N
0
5 MILES

Snake River Birds of Prey National Conservation Area

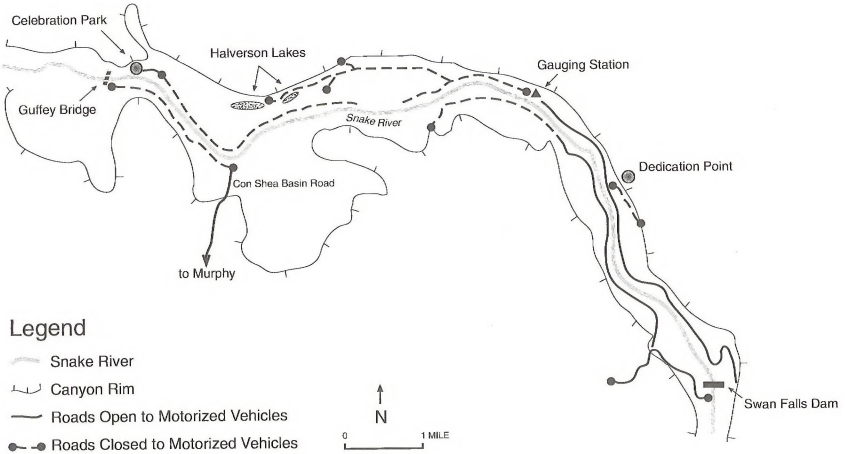
Shooting Management Areas



Map H

Snake River Birds of Prey National Conservation Area

Access Management Areas

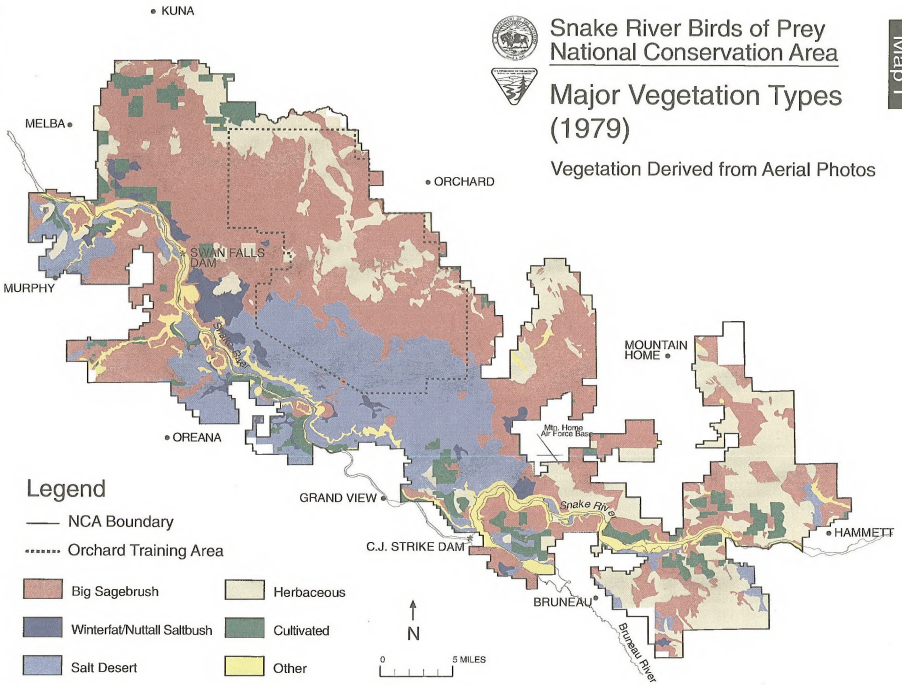


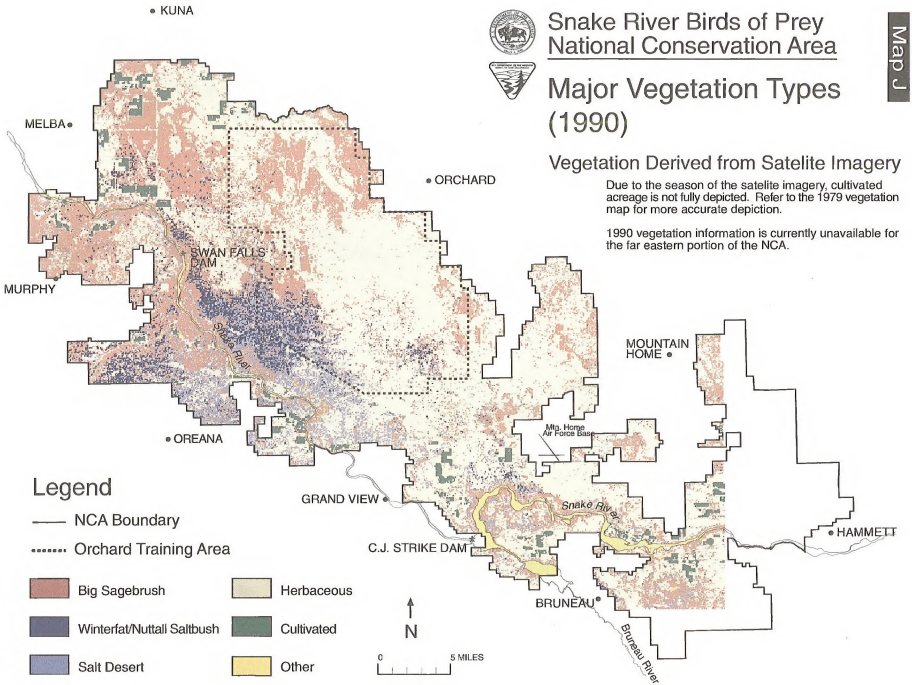
Map I

Snake River Birds of Prey National Conservation Area

Major Vegetation Types (1979)

Vegetation Derived from Aerial Photos





Snake River Birds of Prey National Conservation Area

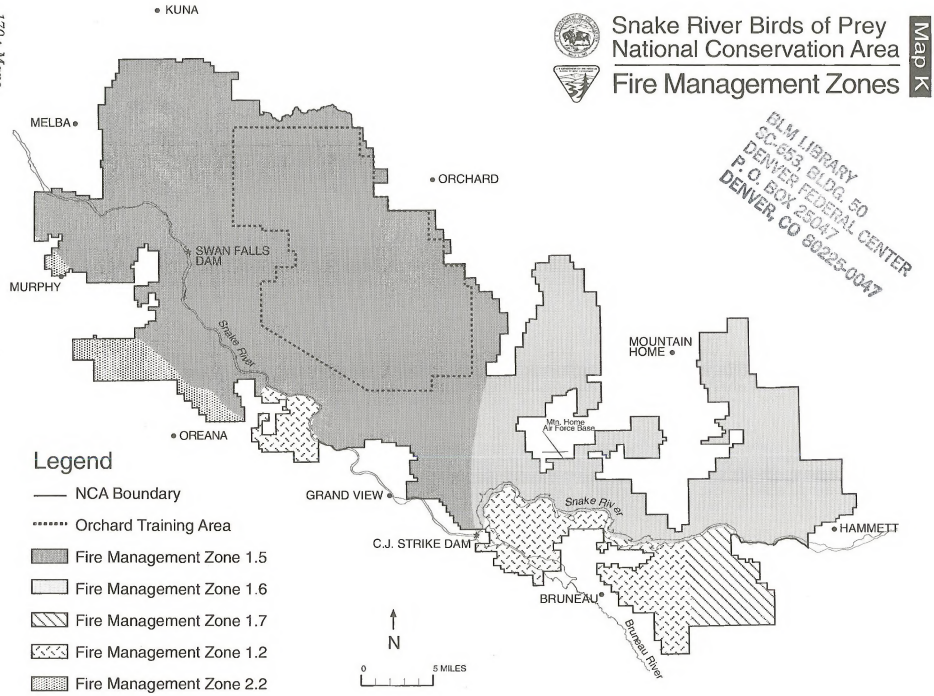
Map J

Major Vegetation Types (1990)

Vegetation Derived from Satelite Imagery

Due to the season of the satelite imagery, cultivated acreage is not fully depicted. Refer to the 1979 vegetation map for more accurate depiction.

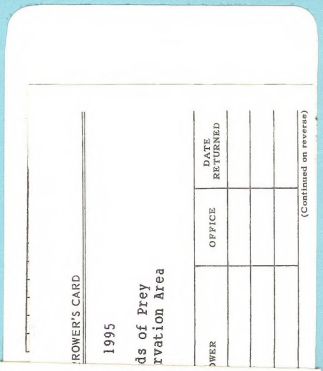
1990 vegetation information is currently unavailable for the far eastern portion of the NCA.



Snake River Birds of Prey National Conservation Area

Fire Management Zones

Map K



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DEPARTMENT OF THE INTERIOR
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